



# SOLVE YOUR SEALING PROBLEMS

**MARINEINDUSTRIALCARAVANAUTOMOTIVE** 

### 01425 617722 www.sealsdirect.co.uk

# **SEALS+DIRECT**

Thank you for requesting our catalogue. We have tried to keep it as informative and simple as possible. If you are unable to find the sizes or products that you require, contact us and we will be pleased to source them for you. The materials used to manufacture the majority of the rubber sections are resistant to weathering, sea water, etc.

#### **HOW TO ORDER**

Orders can either be placed online via our website, telephone, e-mail or fax. If for any reason our answerphone is on please leave a message and we will return your call as soon as we possibly can. All stock items are normally dispatched within 24 hours. Non stock items may take longer. We will inform you if there is likely to be a delay in delivery.

#### **POST AND PACKAGING**

See price list for details of carriage costs. Please note that due to its density rubber is heavy, hence this affects the cost of postage.

Goods are sent by either post or carrier (which will require a signature upon delivery).

Extra heavy items may incur an additional charge.

For overseas rates (including Ireland, Highlands and Islands) please enquire.

#### **PAYMENT**

Either by credit card, debit card, BACS, PayPal, cash or cheque made payable to Seals + Direct Ltd.

We are able to issue pro-forma invoices if required. Trade accounts can be set up on receipt of satisfactory references.

#### **SAMPLES**

If you are unsure whether a product will be suitable for your application, we will send a sample for you to try. We try and keep samples of all of the products listed, however some may not be available.

#### **DISCOUNTS**

Quantity or trade discounts may apply. Please contact us for details.

#### **CONTACTING US**

Our normal office hours are 8.30am to 5.00pm, Monday to Friday. Answerphone outside these hours.

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Adhesive backed expanded neoprene strip

Adhesive backed expanded neoprene sheet

Plain expanded neoprene strip

Plain expanded neoprene sheet

**Expanded neoprene (skinned on 4 sides)** 

**Expanded silicone strip SIL16 White (skinned on 4 sides)** 

**Expanded neoprene cord** 

Expanded neoprene 1/2 round cord

**Expanded silicone cord SIL16 White** 

**Sponge rubber sections** 

**Sponge rubber sections (Automotive)** 

Watertight door and hatch seals

**Combination seals** 

### **Adhesive Backed Expanded Neoprene Strip**

This sticky backed closed cell material is suitable for making a watertight seal on boat hatches, lockers, car boots, enclosures, cabinets, etc. Just peel off the backing paper and stick in place.

The adhesive backing tape used is not fully resistant to water, therefore where there is a large amount of moisture or water present it is advisable to use plain expanded neoprene and a good waterproof contact adhesive, such as our order code A 262. Coil size = 6 metres (made up of 2 metre lengths bonded together).



| ORDER CODE | WIDTH MM | THICKNESS MM |
|------------|----------|--------------|
| AEN 1      | 12       | 3            |
| AEN 2      | 12       | 5            |
| AEN 3      | 12       | 6            |
| AEN 4      | 19       | 3            |
| AEN 5      | 19       | 5            |
| AEN 6      | 19       | 6            |

| ORDER CODE      | WIDTH MM | THICKNESS MM |
|-----------------|----------|--------------|
| AEN 7           | 19       | 10           |
| AEN 8           | 19       | 12           |
| AEN 9           | 25       | 3            |
| AEN 10          | 25       | 5            |
| <b>AEN 11</b>   | 25       | 6            |
| AEN 12          | 25       | 10           |
| AEN 13          | 25       | 12           |
| <b>AEN 14</b>   | 25       | 19           |
| <b>AEN 889</b>  | 50       | 3            |
| <b>AEN 2825</b> | 50       | 5            |
| <b>AEN 1270</b> | 50       | 10           |
| <b>AEN 2996</b> | 38       | 25           |
| EXP CR/EPDM     |          |              |
| 6 METRE COIL    |          |              |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE

### **Adhesive Backed Expanded Neoprene Sheet**



| ORDER CODE                | THICKNESS MM |
|---------------------------|--------------|
| AENS 3211                 | 3            |
| AENS 3212                 | 5            |
| AENS 3213                 | 6            |
| AENS 3214                 | 10           |
| AENS 3215                 | 12           |
| AENS 3216                 | 19           |
| AENS 3217                 | 25           |
| EXP CR/EPDM               |              |
| SUPPLIED IN 2000MM X 1000 | MM SHEETS    |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE





### **Plain Expanded Neoprene Strip**

This closed cell material is suitable for making a watertight seal on boat hatches, lockers, car boots, enclosures, cabinets, etc. To bond into place use a good contact adhesive such as our order code A 139 or A 262 if there is a large amount of moisture or water present.

Coil size = 6 metres (made up of 2 metre lengths bonded together).



| ORDER CODE | WIDTH MM | THICKNESS MM |
|------------|----------|--------------|
| PEN 15     | 12       | 3            |
| PEN 16     | 12       | 5            |
| PEN 17     | 12       | 6            |
| PEN 18     | 19       | 3            |
|            |          |              |

| ORDER CODE    | WIDTH MM | THICKNESS MM |
|---------------|----------|--------------|
| PEN 19        | 19       | 5            |
| PEN 20        | 19       | 6            |
| PEN 21        | 19       | 10           |
| PEN 22        | 19       | 12           |
| PEN 23        | 25       | 3            |
| PEN 24        | 25       | 5            |
| PEN 25        | 25       | 6            |
| <b>PEN 26</b> | 25       | 10           |
| PEN 27        | 25       | 12           |
| PEN 28        | 25       | 19           |
| PEN 1734      | 38       | 25           |
| EXP CR/EPDM   |          |              |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE

### **Plain Expanded Neoprene Sheet**



| ORDER CODE              | THICKNESS MM |
|-------------------------|--------------|
| PENS 3218               | 3            |
| PENS 3219               | 5            |
| PENS 3220               | 6            |
| PENS 3221               | 10           |
| PENS 3222               | 12           |
| PENS 3223               | 19           |
| PENS 3224               | 25           |
| EXP CR/EPDM             |              |
| SUPPLIED IN 2000MM X 10 | 00MM SHEETS  |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE

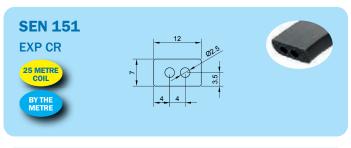


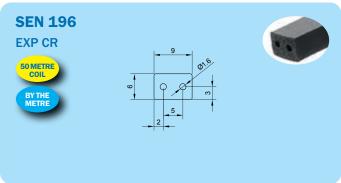


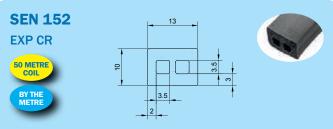
### **Expanded Neoprene (skinned on 4 sides)**

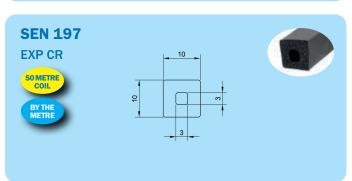
This closed cell material which is skinned on all 4 sides is suitable for making a watertight seal on boat hatches, car boots, enclosures, cabinets, etc. To bond into place use a good contact adhesive such as our order code A 139 or A 262 if there is a large amount of moisture or water present.

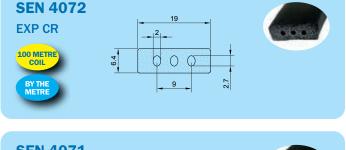


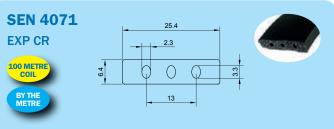












### **Expanded Silicone Strip SIL16 White (skinned on 4 sides)**



| ORDER CODE | WIDTH MM | THICKNESS MM   |
|------------|----------|----------------|
| ES 4217    | 10       | 3              |
| ES 4218    | 25       | 3              |
| ES 4219    | 6        | 6              |
| ES 4220    | 12       | 6              |
| ES 4221    | 25       | 6              |
| ES 4222    | 50       | 6              |
| ES 4223    | 10       | 10             |
|            |          | CONTINUED OVER |

# **Expanded Silicone Strip SIL16 White (skinned on 4 sides) continued**

| ORDER CODE                           | WIDTH MM | THICKNESS MM |
|--------------------------------------|----------|--------------|
| ES 4224                              | 12       | 10           |
| ES 4225                              | 25       | 10           |
| ES 4226                              | 50       | 10           |
| ES 4227                              | 25       | 12           |
| ES 4228                              | 20       | 20           |
| ES 4229                              | 30       | 20           |
| ES 4230                              | 40       | 20           |
| ES 4231                              | 25       | 25           |
| EXP SIL  25 METRE COIL  BY THE METRE |          |              |

| ORDER CODE                  | WIDTH MM | THICKNESS MM |
|-----------------------------|----------|--------------|
| ES 4232                     | 50       | 25           |
| ES 4233                     | 35       | 35           |
| EXP SIL                     |          |              |
| 10 METRE COIL  BY THE METRE |          |              |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE

### **Expanded Neoprene Cord**

This closed cell material is ideal as a soft seal for many applications. It can be formed into endless rings using superglue, our order code A 3288.



| ORDER CODE                            | DIAMETER MM |
|---------------------------------------|-------------|
| ENC 82 TO METRE BY THE METRE          | 3           |
| ENC 2222 LOOO METRE COIL BY THE METRE | 4           |
|                                       |             |

| ORDER CODE                      | DIAMETER MM |
|---------------------------------|-------------|
| ENC 83  TENC 83  ENC 83  ENC 83 | 5           |
| ENC 84 SOO METRE BY THE METRE   | 6           |
| ENC 85 SOO METRE BY THE METRE   | 8           |
| ENC 86 COIL BY THE METRE        | 10          |
| ENC 87 SO METRE BY THE METRE    | 12          |
| ENC 612 SO METRE BY THE METRE   | 16          |
| ENC 613 (25 METRE DY THE METRE  | 19          |
| ENC 614 (25 METRE DYTHE METRE)  | 25          |
| EXP CR                          |             |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE





### **Expanded Neoprene 1/2 Round Cord**

This closed cell material can be used for hatch or door seals. It can be bonded in place using a contact adhesive such as our order code A 139 or A 262.



| ORDER CODE                          | BASE MM | HEIGHT MM |
|-------------------------------------|---------|-----------|
| ENHC 88                             | 6       | 3         |
| ENHC 89                             | 8       | 4         |
| ENHC 90                             | 10      | 5         |
| ENHC 91                             | 13      | 6.5       |
| ENHC 92                             | 16      | 8         |
| EXP CR  50 METRE COIL  BY THE METRE |         |           |
| ENHC 93                             | 19      | 9.5       |
| ENHC 94                             | 25      | 12.5      |
| EXP CR  25 METRE COIL  BY THE METRE |         |           |

### **Expanded Silicone Cord SIL16 White**



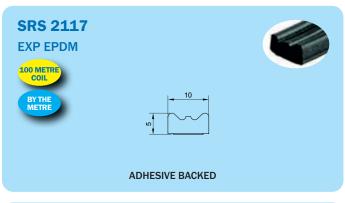
| ORDER CODE                  | DIAMETER MM |
|-----------------------------|-------------|
| ESC 4234                    | 3           |
| ESC 4235                    | 5           |
| ESC 4236                    | 6           |
| ESC 4237                    | 8           |
| ESC 4238                    | 10          |
| ESC 4239                    | 12          |
| ESC 4240                    | 15          |
| ESC 4241                    | 20          |
| ESC 4242                    | <b>25</b>   |
| EXP SIL                     |             |
| 25 METRE COIL  BY THE METRE |             |

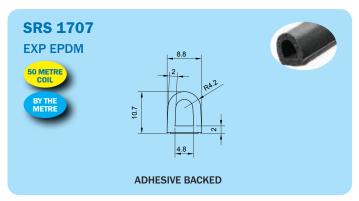
OTHER SIZES AVAILABLE - PLEASE ENQUIRE

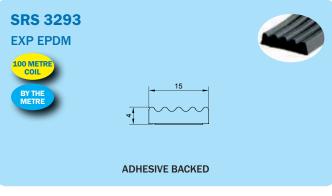


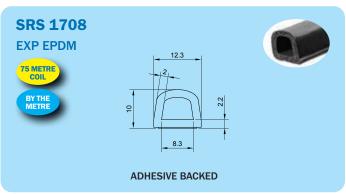


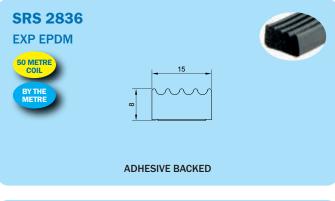
**Sponge Rubber Sections**These sponge rubber sections are ideal for various applications. The sections that are not adhesive backed can be bonded in place with either our order code SAT 3166, SAT 3167 double sided tape or our order code A 139 or A 262 contact adhesive.

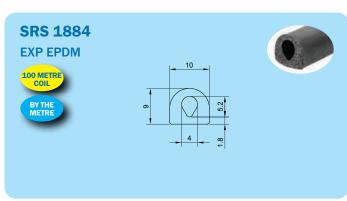


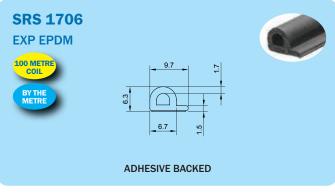


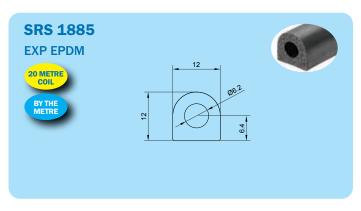




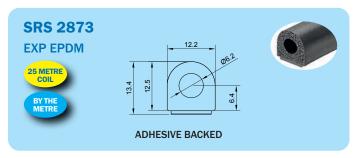


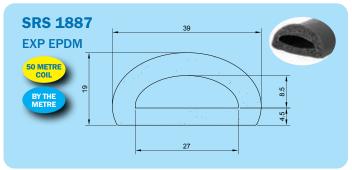


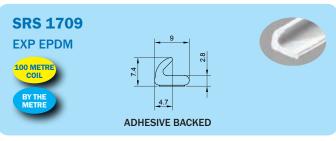


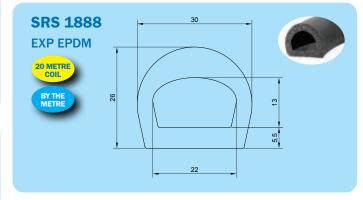


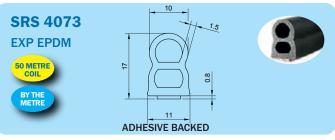
### **Sponge Rubber Sections continued**

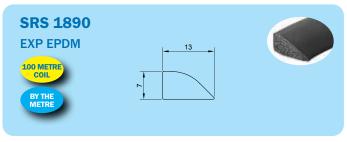


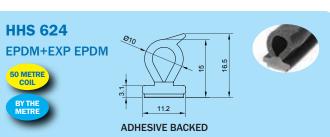


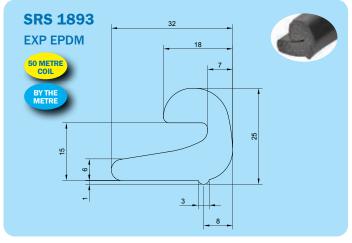


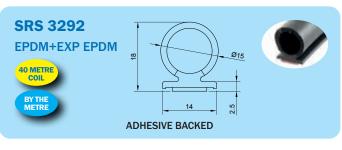


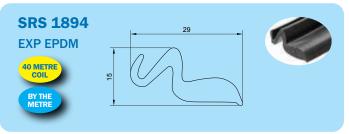


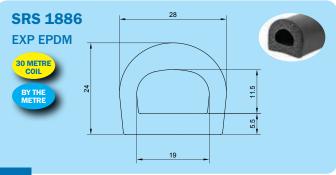




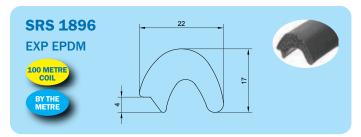


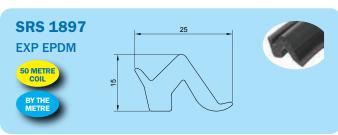


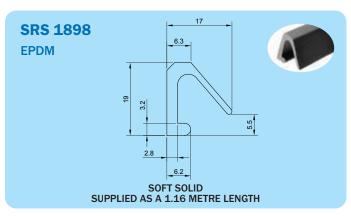


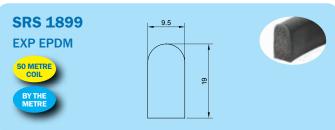


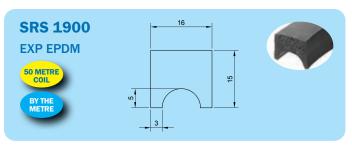
### **Sponge Rubber Sections continued**

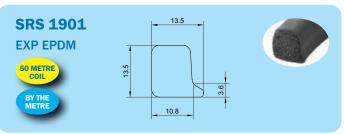


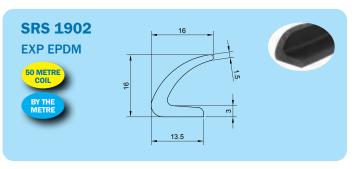


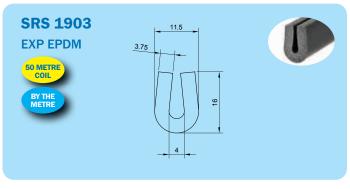


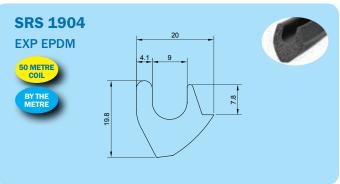


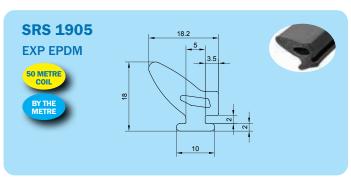


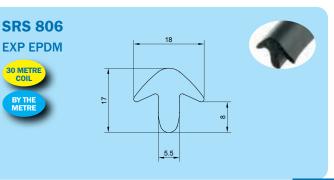








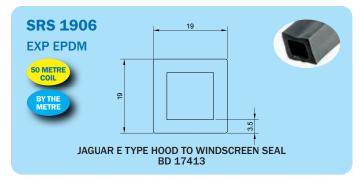


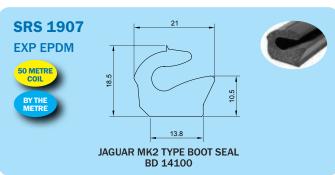


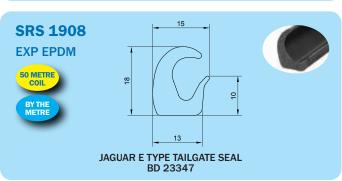


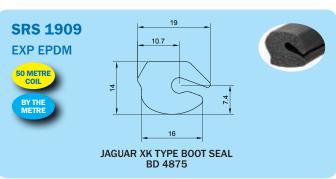


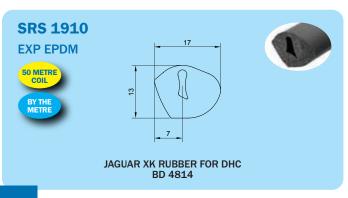
## **Sponge Rubber Sections (Automotive)**

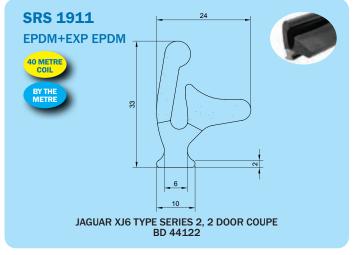


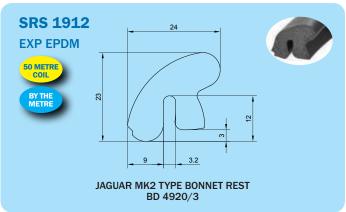


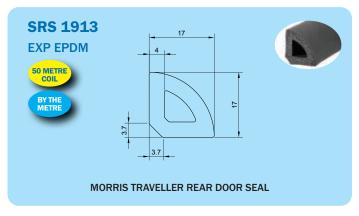


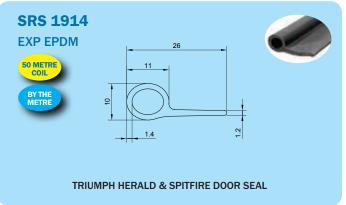










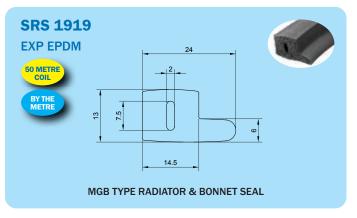


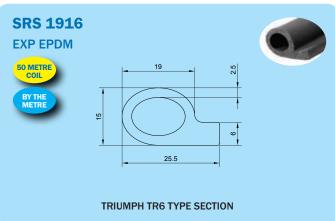


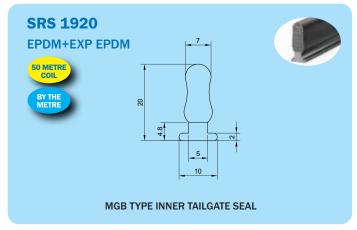


### **Sponge Rubber Sections (Automotive) continued**



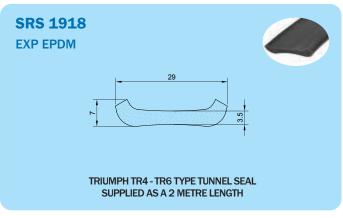














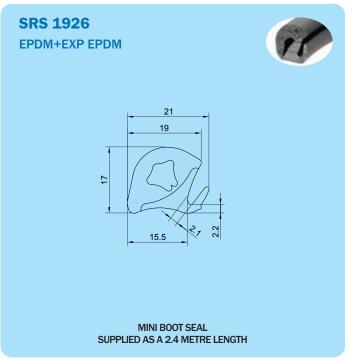




### **Sponge Rubber Sections (Automotive) continued**







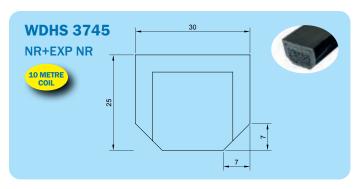
### **Watertight Door and Hatch Seals**

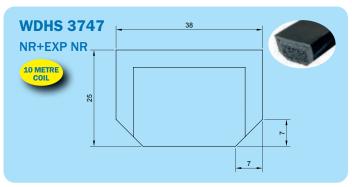
The seal consists of a solid rubber outer on 3 sides and a cellular sponge core bonded to the solid rubber outer faces and is supplied in 10 metre coils. Please refer to page 117 for fitting advice.

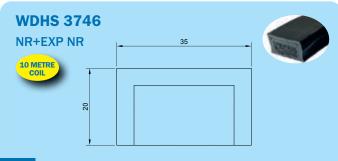
We offer 3 types of rubber for the sealing face:

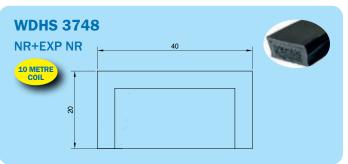
- •Natural Rubber for general purpose use (standard version).
- •Neoprene Rubber for higher temperatures & ozone resistance (special version).
- •Nitrile Rubber for gas & oil resistance (special version).

The cellular core is purpose made for this product and offers great recovery from compression.



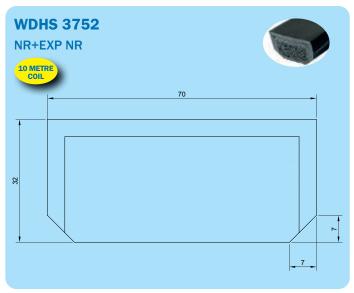






### **Watertight Door and Hatch Seals continued**











OTHER SIZES AVAILABLE - PLEASE ENQUIRE





### **Combination Seals**

Seals requiring a soft expanded sponge for sealing with a strong wear resistant outer skin can be made by laminating solid neoprene rubber onto expanded neoprene strip. Refer to the diagram below:



These are manufactured to order. Prices are available on request and are dependent on size.





Solid neoprene rubber strip Solid neoprene rubber sheet Solid silicone rubber strip Rubber sheeting Porthole rubber strip

### **Solid Neoprene Rubber Strip**

This flexible rubber strip is an ideal material for sealing and edging applications. It is easily cut with a knife and will stick to most surfaces using contact adhesive, our order code A 139 or A 262. Refer to page 119 for preparation information.



| ORDER CODE      | WIDTH MM | THICKNESS MM |
|-----------------|----------|--------------|
| SN 29           | 25       | 1.5          |
| SN 30           | 50       | 1.5          |
| SN 31           | 25       | 3            |
| SN 32           | 50       | 3            |
| SN 33           | 75       | 3            |
| SN 34           | 25       | 5            |
| SN 35           | 50       | 5            |
| SN 36           | 75       | 5            |
| SN 37           | 50       | 6            |
| SN 38           | 75       | 6            |
| SN 39           | 50       | 10           |
| SN 40           | 75       | 10           |
| CR 5 METRE COIL |          |              |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE

### **Solid Neoprene Rubber Sheet**



| ORDER CODE      | WIDTH MM | THICKNESS MM |
|-----------------|----------|--------------|
| SNS 3225        | 1400     | 1.5          |
| SNS 3226        | 1400     | 3            |
| SNS 3227        | 1400     | 5            |
| SNS 3228        | 1400     | 6            |
| SNS 3229        | 1400     | 10           |
| CR BY THE METRE |          |              |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE

### **Solid Silicone Rubber Strip**

This white flexible food quality rubber strip is ideal for sealing and edging applications, especially where temperatures go to 200°C. It is easily cut with a knife and can be bonded in place with either our order code S 137 or S 138.



| ORDER CODE       | WIDTH MM | THICKNESS MM |
|------------------|----------|--------------|
| SIL 3230         | 25       | 1.5          |
| SIL 3231         | 50       | 1.5          |
| SIL 3232         | 25       | 3            |
| SIL 3233         | 50       | 3            |
| SIL 3234         | 25       | 5            |
| SIL 3235         | 50       | 5            |
| SIL 5 METRE COIL |          |              |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE

### **Rubber Sheeting**

We are able to offer various grades of rubber sheeting.

- **Neoprene -** For general purpose gaskets and seals. Good UV resistance and moderate resistance to oils and chemicals. Commercial grade 60°/70°sh. BS2752 grades from 40° to 70° sh.
- Nitrile Mainly used in an oil/fuel environment as it has excellent resistance. Commercial grade 60°/70° sh. BS2751 40° to 70° sh.
- Natural This material has excellent physical properties so is ideal for using as a seal in boat portlights, hatches and doors. It has excellent abrasion resistance, so makes an ideal liner for shot blast cabinets and material chutes. It is not resistant to oils. Hardness ranges from 40° to 70° sh. A food quality grade is available for marine fresh water tank seals.
- **Insertion -** A natural rubber material with an insertion layer sandwiched in the middle of it to give it strength, which helps prevent it tearing.
- **EPDM -** This material has excellent resistance to UV, so is suitable for many outdoor applications. Commercial grade 60°/70°sh. A WRC grade is available for potable applications.
- Silicone Available in both general purpose and speciality grades and is an excellent choice for applications requiring good sealing properties at high and low temperatures. Suitable for use at -40°C up to +300°C. Normally available in white with other colours available to special order. FDA compliant.

All of the above materials are available in either full rolls, cut lengths, strip or gaskets. Details and prices are available on application.





### **Porthole Rubber Strip**

This semi soft rubber (45°sh) is flexible and semi compressible. It is used for sealing brass portlights and vents. For plastic and aluminium portlights it is recommended to use an expanded neoprene seal.



| 25 | 3                               |
|----|---------------------------------|
| 38 | 3                               |
| 6  | 6                               |
| 10 | 6                               |
| 25 | 6                               |
| 10 | 10                              |
| 12 | 10                              |
| 25 | 10                              |
|    | 38<br>6<br>10<br>25<br>10<br>12 |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE



Solid neoprene cord
White PVC cord
Rubber 'P' section
Rubber Tadpole section
Rubber 'U' channel section
Rubber square 'U' channel section
Ribbed 'U' channel
'T' section
'L' section

### **Solid Neoprene Cord**

This is suitable for making 'O' rings, portlight seals, etc. It can be easily formed into endless rings using superglue our order code A 3288. It is also used for plugging bolt holes in 'D' fenders.

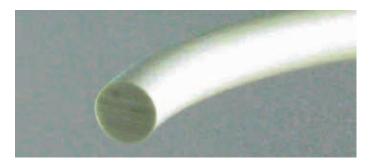


| ORDER CODE                         | DIAMETER MM |
|------------------------------------|-------------|
| <b>SNC 76</b>                      | 3           |
| SNC 77                             | 5           |
| SNC 78                             | 6           |
| SNC 79*                            | 8           |
| SNC 80                             | 10          |
| SNC 81                             | 12          |
| CR * NBR SOMETRE COIL BY THE METRE |             |

OTHER SIZES AVAILABLE - PLEASE ENQUIRE

#### White PVC Cord

This white PVC cord is ideal for plugging drill holes in our white PVC 'D' fender.

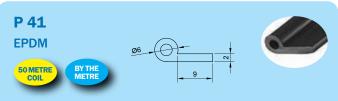


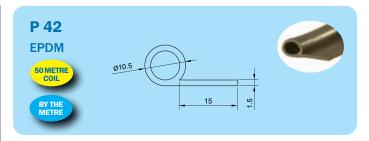
| ORDER CODE        | DIAMETER MM      |
|-------------------|------------------|
| SCW 1257          | 8                |
| SCW 2298          | 13               |
| SCW 3010          | 19               |
| PVC SUPPLIED AS A | A 3 METRE LENGTH |

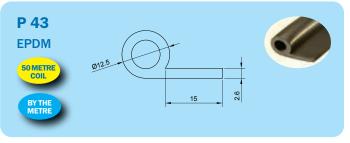
### **Rubber 'P' Section**

Ideal for hatch seals, door seals, piping between panels on cars etc. The flange length can be extended or thickened by sticking some solid neoprene strip onto it with adhesive our order code A 139 or A 262. Refer to pages 104 and 119 for technical information.









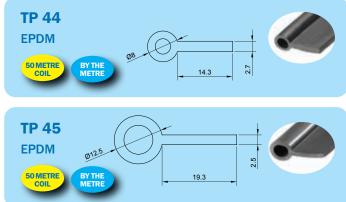




### **Rubber Tadpole Section**

Ideal for hatch seals, door seals, piping between panels on cars etc. The flange length can be extended or thickened by sticking some solid neoprene strip onto it with adhesive our order code A 139 or A 262. Refer to pages 104 and 119 for technical information.



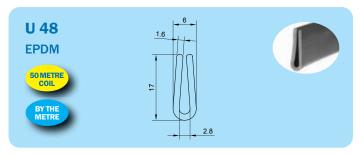


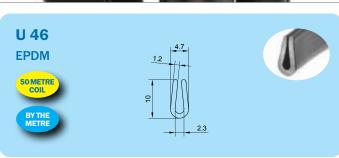
OTHER SIZES AVAILABLE - PLEASE ENQUIRE

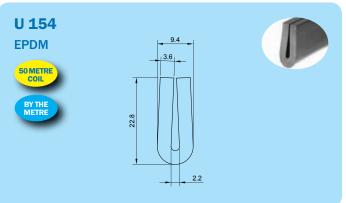
#### **Rubber 'U' Channel Section**

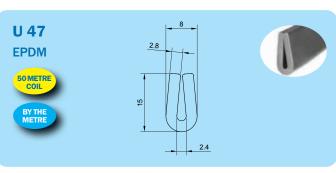
For protecting edges on panels, doors, glass, etc. It is also suitable for making a seal around glass in aluminium window channels. It can be bonded in place using either our order code S 136, S 137 or S 138. The width of the section can be increased by bonding neoprene strip along side it, or the panel thickness can be reduced by bonding a strip into it. Refer to pages 104 and 119 for technical information.

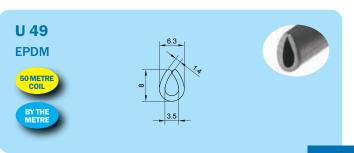




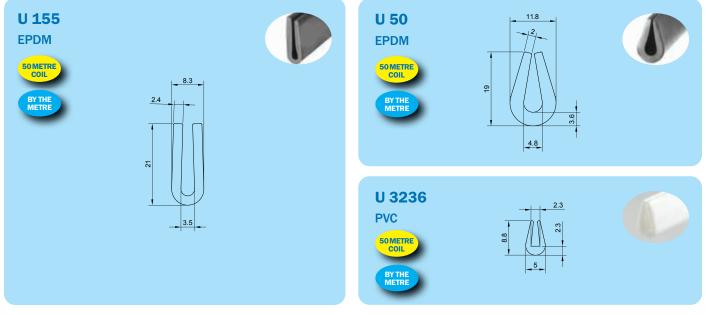








#### Rubber 'U' Channel Section continued

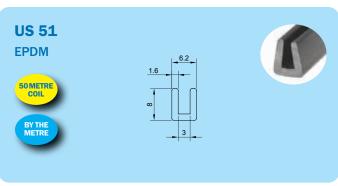


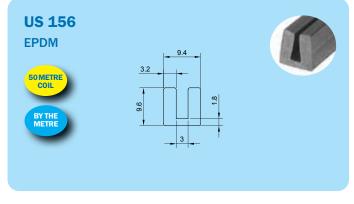
OTHER SIZES AVAILABLE - PLEASE ENQUIRE

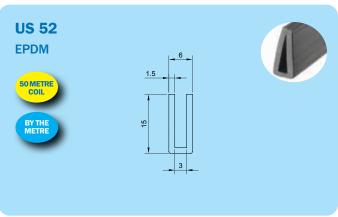
### **Rubber Square 'U' Channel Section**

For protecting edges on panels, doors, glass, etc. It is also suitable for making a seal around glass in aluminium window channels. It can be bonded in place using either our order code S 136, S 137, S 138, A 139 or A 262. The width of the section can be increased by bonding neoprene strip along side it, or the panel thickness can be reduced by bonding a strip into it. Refer to pages 104 and 119 for technical information.

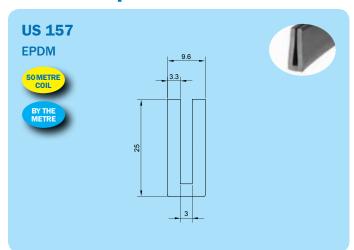


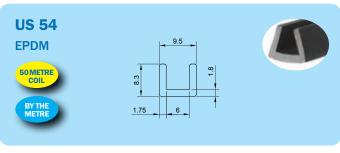


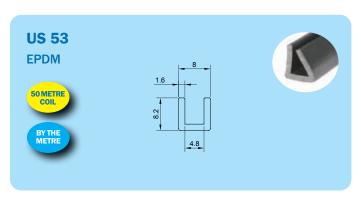


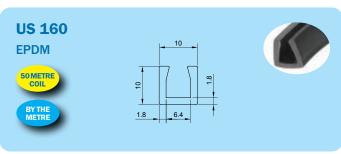


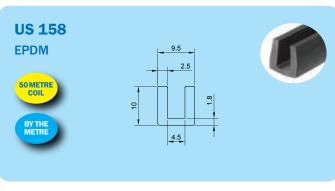
## Rubber Square 'U' Channel Section continued

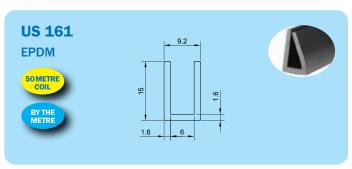


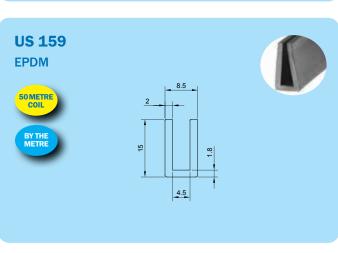


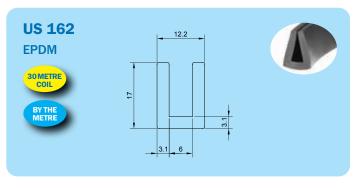


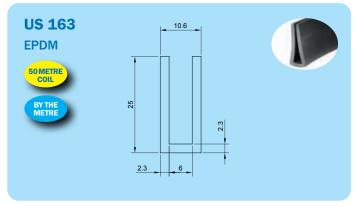




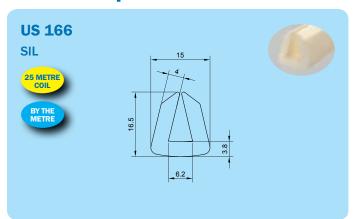


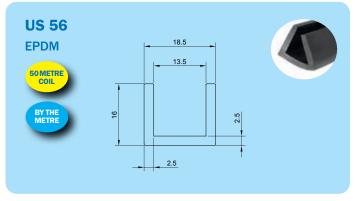


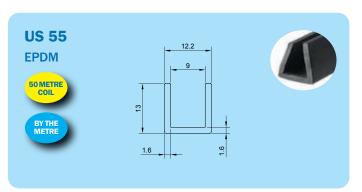


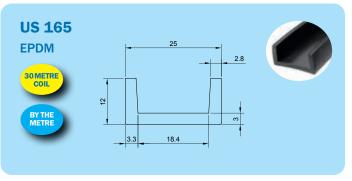


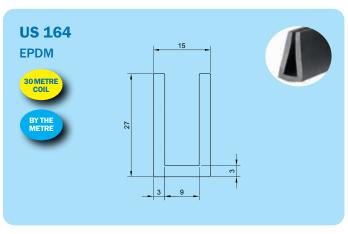
## Rubber Square 'U' Channel Section continued

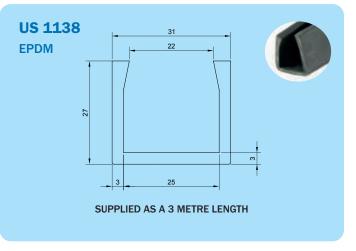






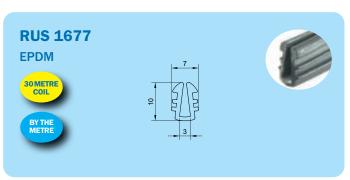






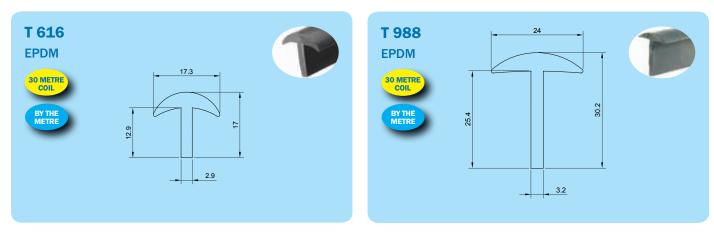
OTHER SIZES AVAILABLE - PLEASE ENQUIRE

### Ribbed 'U' Channel



### **'T' Section**

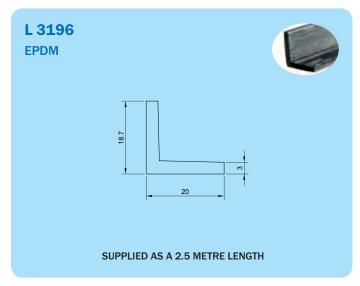
This rubber 'T' section is used to form a seal between two surfaces in the same plane.

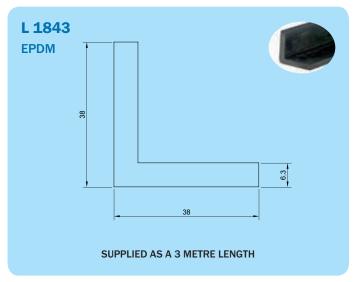


OTHER SIZES AVAILABLE - PLEASE ENQUIRE

### 'L' Section

'L' section rubber extrusions are ideal for protecting and covering edges and corners.





OTHER SIZES AVAILABLE - PLEASE ENQUIRE



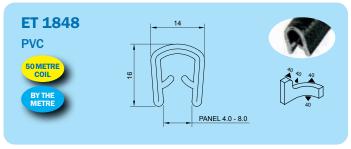


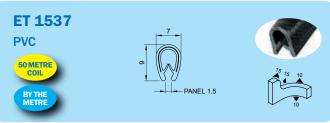
**Edge trims and seals Plastic POM reinforced** 

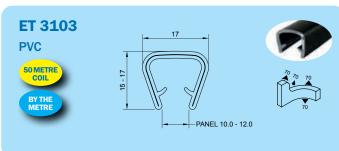
### **Edge Trims and Seals**

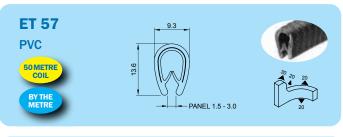
These trims make ideal edge coverings for panels ranging from 1.5mm to 16mm. The self grip mechanism holds them in place. The soft sponge bulb/lip ensures that an efficient seal can be made when used on doors, hatches, lockers, enclosures, cabinets, etc. Please refer to page 103 for bend radius diagram explanation.

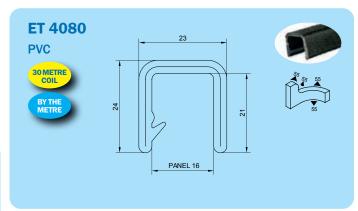


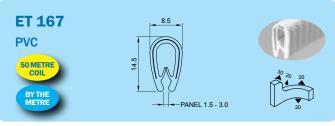


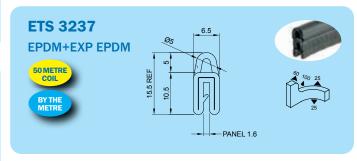


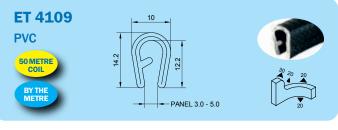


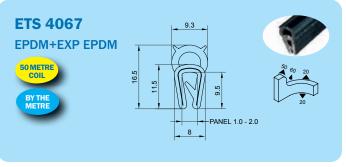


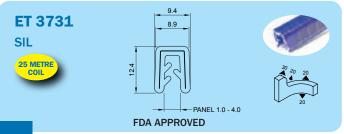






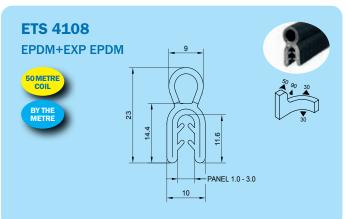


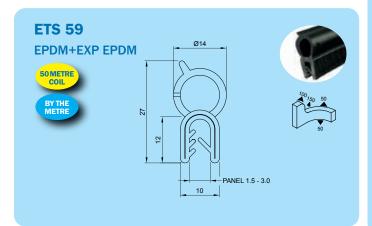


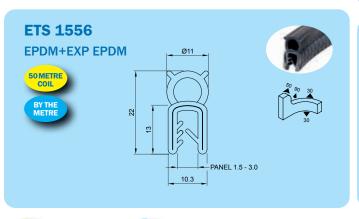


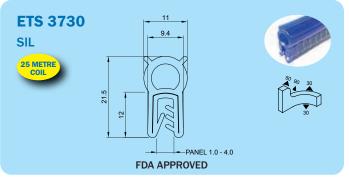
### **Edge Trims and Seals continued**





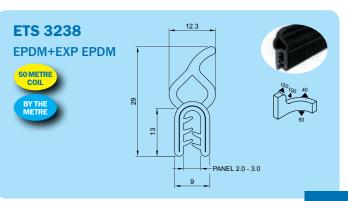








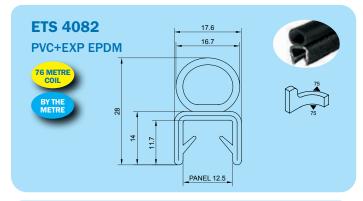


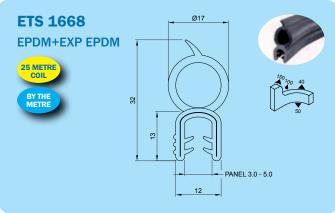


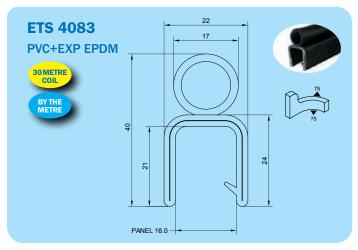


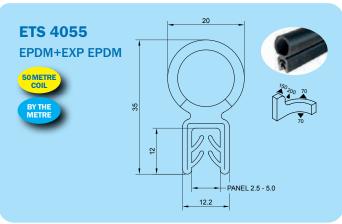


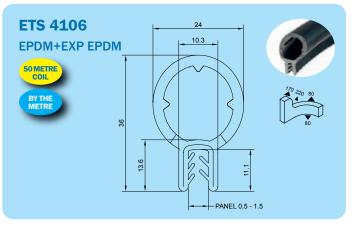
### **Edge Trims and Seals continued**

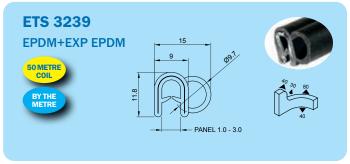


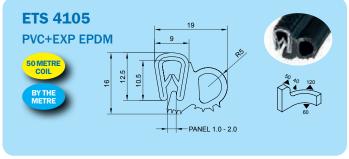


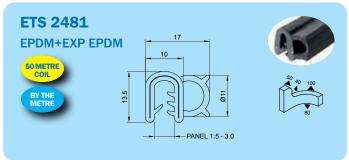


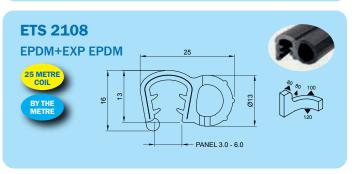




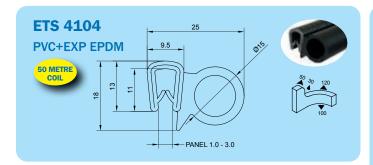


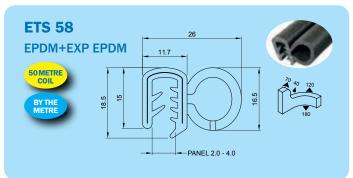


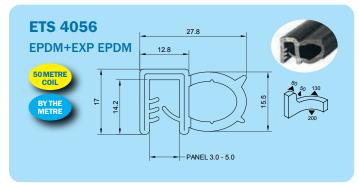




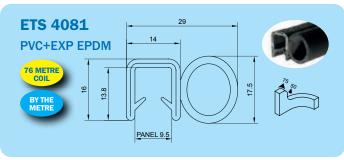
### **Edge Trims and Seals continued**

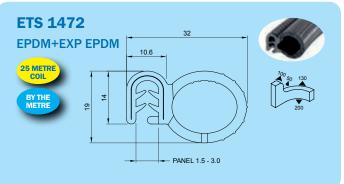


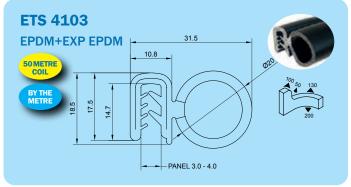


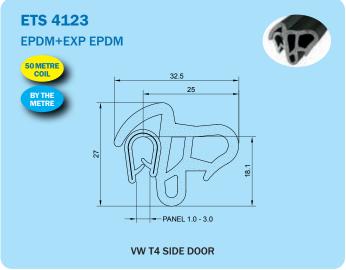


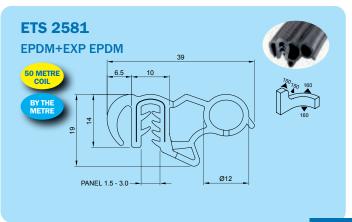










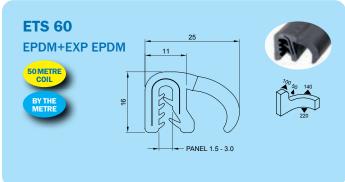


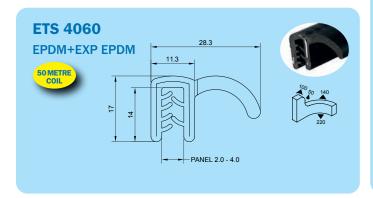


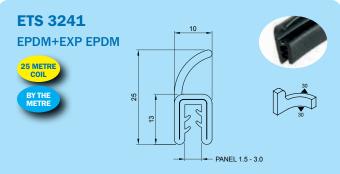


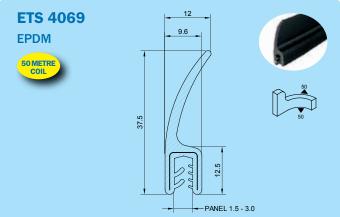
### **Edge Trims and Seals continued**

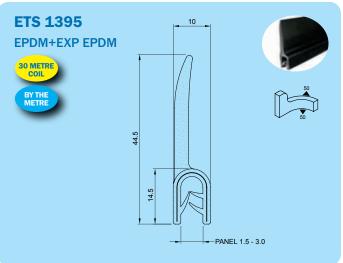








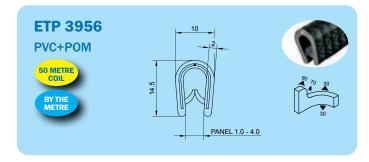


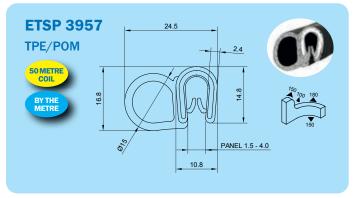


#### **Plastic POM reinforced**

This clip-on edge trim contains a POM plastic insert rather than the conventional metal insert. This provides the following advantages over the metal insert versions:

- Corrosion resistant
- Lower memory effect virtually returns back to its original shape after bending
- · Lower unit weight
- Nonconductive
- · Easier to cut
- Does not deform when cutting to length
- Longer service life







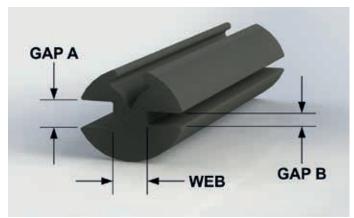


Window rubbers (Claytonrite)
Filler strip
Glazing tool
Flocked lined window rubber
'S' Shaped window rubber
Opening/Sliding window seals
Interscrews
Houdini hatch seals
Lewmar hatch and Portlight seals
Acrylic (Perspex)/Polycarbonate
Mast sleeves

#### **Window Rubbers (Claytonrite)**

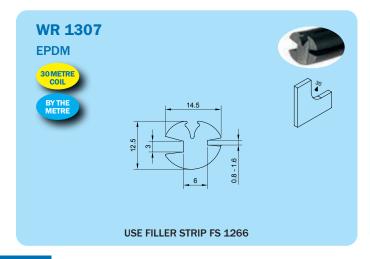
This window rubber is suitable for fitting either acrylic (Perspex), polycarbonate or glass into boats, cars, vans etc. It allows for easy replacement of damaged windows. Remember to order the filler strip and the glazing tool to fit it. To find your required size measure your glass and panel thickness and check against the drawings. The rubber will seal approx -1mm (e.g. 4mm glass will seal in a 5mm gap) if required. It is recommended to bed the rubber in with a silicone sealant our order code S 138. Please refer to page 103 for bend radius diagram explanation and page 107 for fitting instructions.

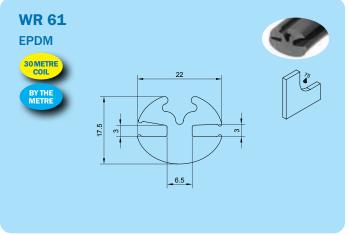




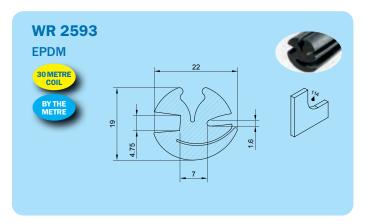
| ORDER CODE | GAP A MM | GAP B MM | WEB MM |
|------------|----------|----------|--------|
| WR 1307    | 3        | 0.8-1.6  | 6      |
| WR 61      | 3        | 3        | 6.5    |
| WR 2593    | 4.75     | 1.6      | 7      |
| WR 62      | 5        | 1.6      | 6.5    |
| WR 63      | 5        | 3        | 7      |
| WR 937     | 5        | 3        | 7.5    |
| WR 64      | 5        | 5        | 6.5    |
| WR 65      | 6        | 1.6      | 7      |
| WR 3650    | 6        | 2.6      | 8      |
| WR 66      | 6        | 3        | 7.5    |
| WR 3328    | 6        | 3        | 9      |
| WR 1544    | 6        | 2.4-3.6  | 8      |
| WR 67      | 6        | 5        | 7      |
| WR 68      | 6        | 6        | 8      |
| WR 775     | 6        | 6        | 8.3    |
| WR 69      | 10       | 5        | 9      |
| WR 70      | 10       | 6        | 11.5   |
| WR 71      | 12       | 6        | 10     |
| WR 854     | 20       | 6        | 7.5    |
| WR 1513    | 5        | 4        | N/A    |
| WR 1514    | 6        | 5        | N/A    |

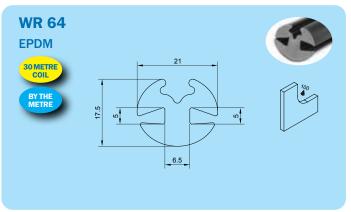
OTHER SIZES AVAILABLE - PLEASE ENQUIRE

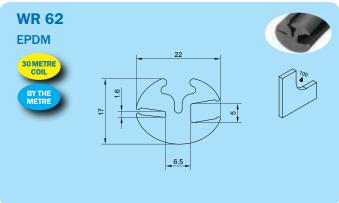


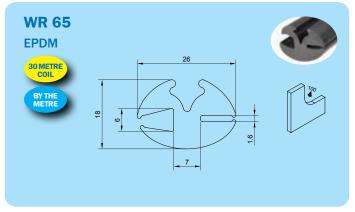


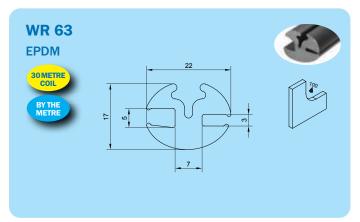
### **Window Rubbers (Claytonrite) continued**

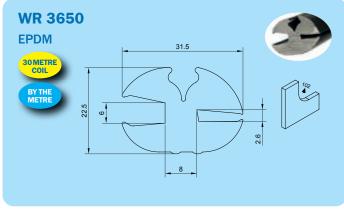


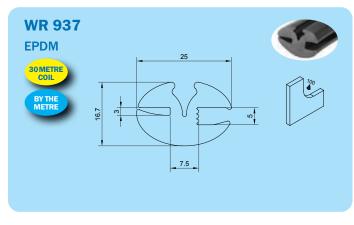


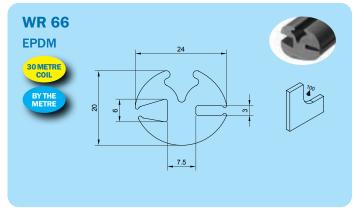




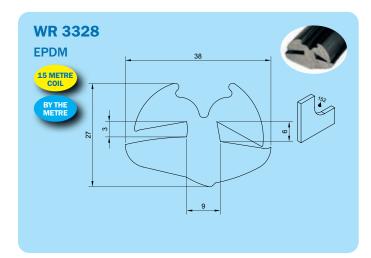


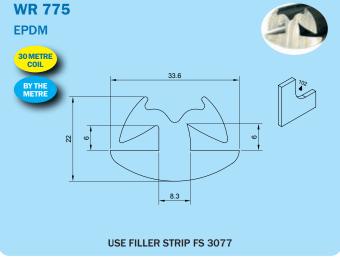


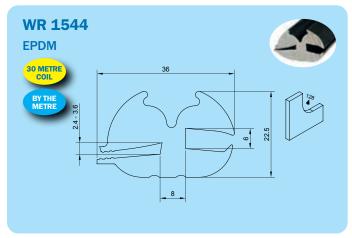


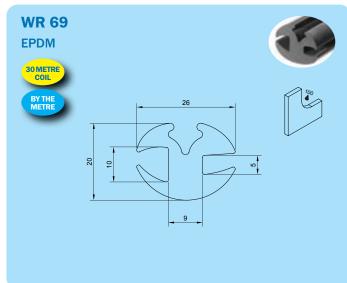


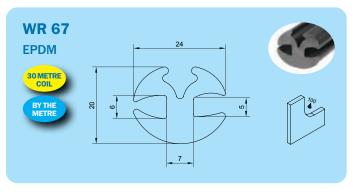
### **Window Rubbers (Claytonrite) continued**

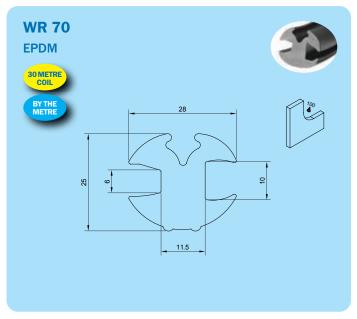


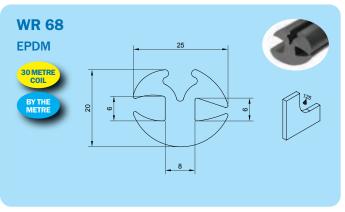




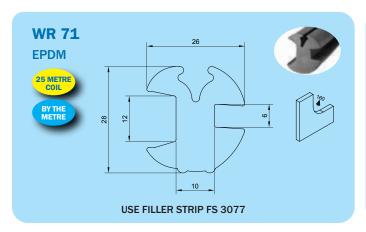


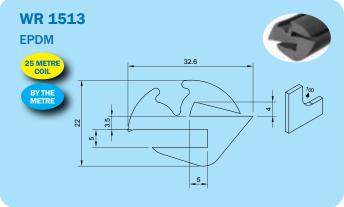


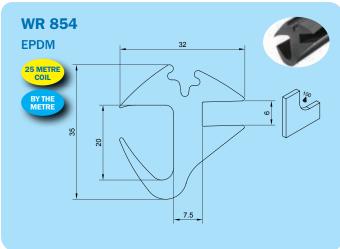


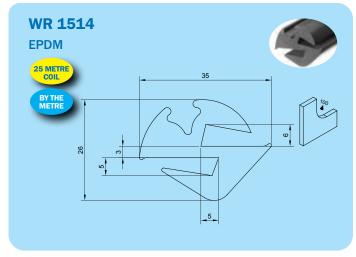


### **Window Rubbers (Claytonrite) continued**







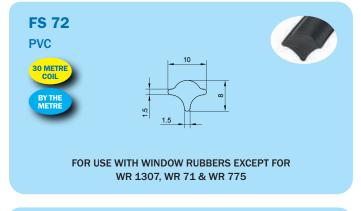


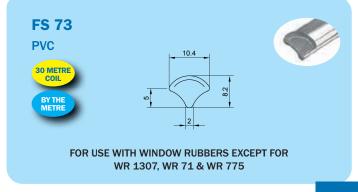
#### Filler Strip

Coloured strip to fit all of the above sections.





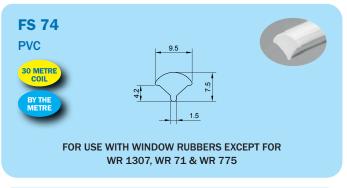




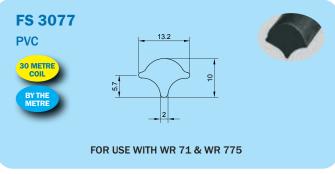


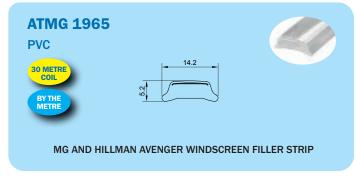


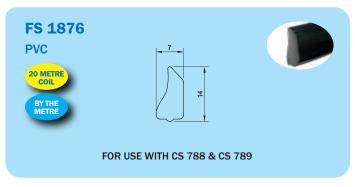
#### **Filler Strip continued**

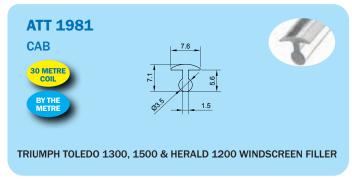












### **Glazing Tool**

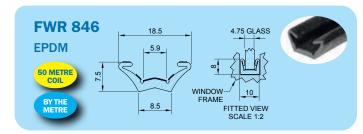
This assists in the installation of the acrylic (Perspex), Polycarbonate or glass panels and the filler strip.

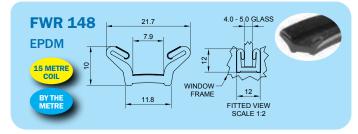


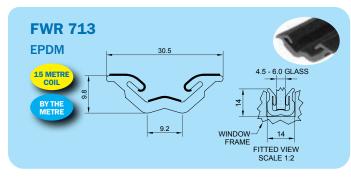


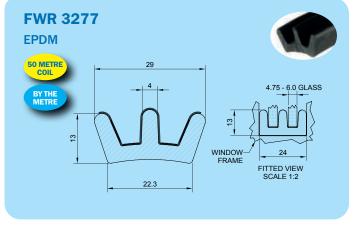
#### **Flocked Lined Window Rubber**

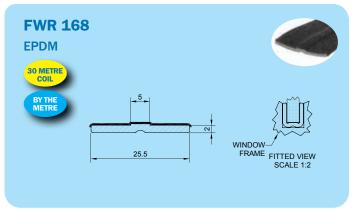
These flocked lined window rubbers come in either preformed 'U' shapes that fit directly into the channel, or in a flat strip that bends easily to fit different size channels. (Greater widths can be obtained by joining two pieces together). They make an ideal replacement for polyester ribbon.







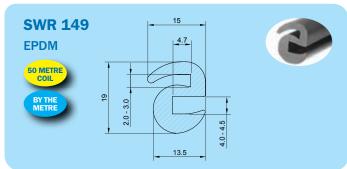


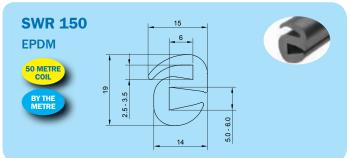


### **'S' Shaped Window Rubber**

This 'S' shaped rubber is suitable for small windows on boats, cars, caravans etc.





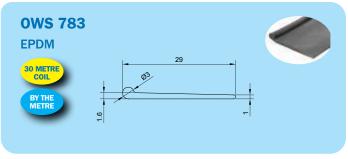


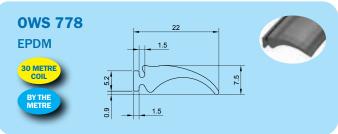


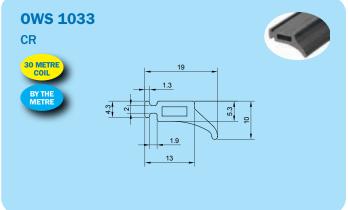


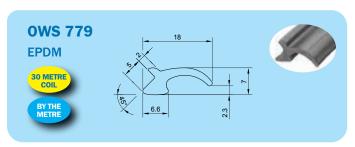
### **Opening/Sliding Window Seals**

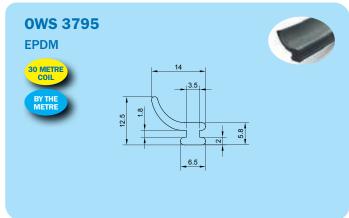


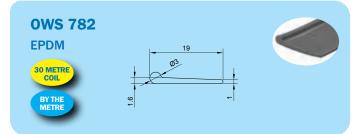






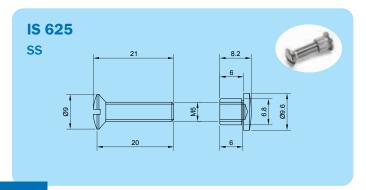


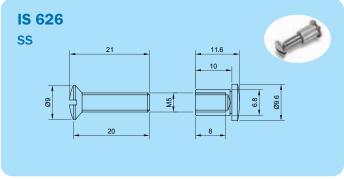




#### **Interscrews**

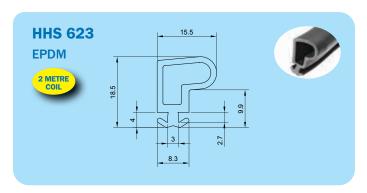
These M5 captive nuts and screws are used for fixing windows in place and come in two standard sizes, 6mm and 10mm long. They are supplied with an M5 x 20mm machine screw. (Other machine screw lengths available).

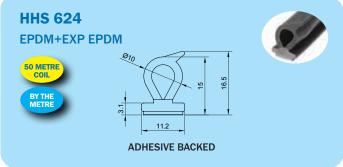




#### **Houdini Hatch Seals**

There are two different types of seals available for Houdini hatches. A 'P' seal that locates into the hatch frame, and a self adhesive bulb seal.





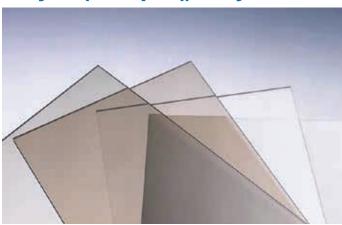
#### **Lewmar Hatch and Portlight Seals**



We are able to supply genuine replacement seals for various Lewmar hatches and portlights, including Rollstop, Trimline, Coastline, Trimport, Ocean, Concept, Low Profile, Medium profile hatches and Old Standard, New Standard, Atlantic and Ocean Portlights.

Please advise of your hatch or portlight type and part/serial number to enable us to quote. Please note that some old hatch/portlight seals may be discontinued. In this case we will recommend a suitable replacement.

#### **Acrylic (Perspex)/Polycarbonate**



For windows, hatches and washboards. Available in either full sheets or cut or shaped to any size, with or without fixing holes.

Colours/Thickness:

Clear acrylic - 3mm to 25mm Mid grey acrylic - 3mm to 15mm Mid bronze/dark grey acrylic - 3mm to 5mm Clear Polycarbonate - 2mm to 12mm

Prices are available on application. Please email, fax or send drawings of your exact requirements.

#### **Mast Sleeves**



Boats that have through deck or recessed masts normally require a rubber sealing sleeve to go around the mast and fit onto a collar on the deck.

Due to the variety of different sizes available, these are made to order from 3mm Neoprene and can be supplied either open (to fit around the mast in situ), or closed (to fit around the mast when it is being stepped).

Please advise of top and bottom diameters and depth required.

Prices are available on application.





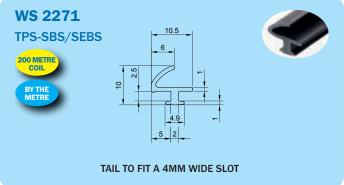
Wedge seals and gaskets
Timber foam bubble seals
Timber foam 'P' seals
Timber foam flipper seals
Timber foam double flipper seals
Timber weatherseal- Flat flipper
Timber weatherseal - Angled flipper
Timber weatherseal - Flexible flipper
Timber bubble seals
Glass door seals
Crittal seal
Brush seals (Carrier fit)
Brush seals (Self-adhesive)

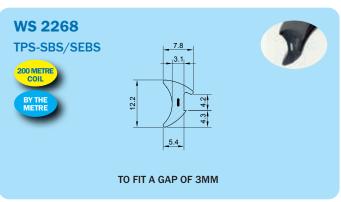
Wedge Seals and Gaskets
The wedge seals are designed to insert between the glass and frame on windows to make a watertight seal.

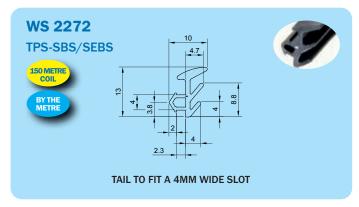
The flipper, 'E' and bubble gaskets are ideal for use in opening windows and doors.

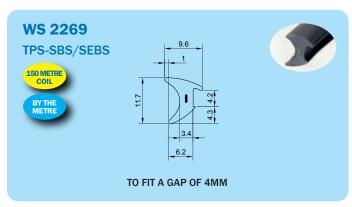
We are also able to source many different seals for timber windows and doors. As there are so many different types available please enquire for details. Please refer to page 110 on how to take measurements and page 111 for fitting instructions.

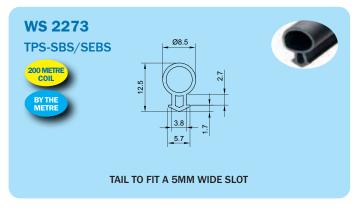


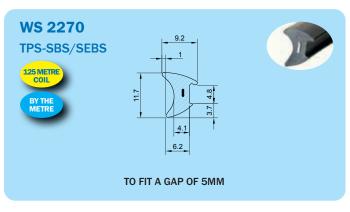


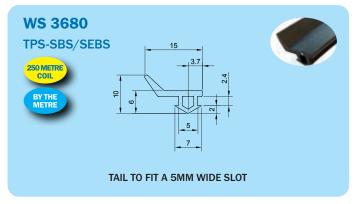












#### **Timber Foam Bubble Seals and Weatherseals**

#### **FOAM BUBBLE SEALS**





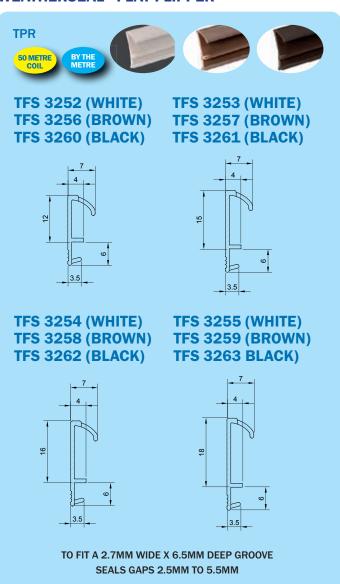
#### **FOAM FLIPPER SEALS**



#### **FOAM DOUBLE FLIPPER SEALS**



#### **WEATHERSEAL - FLAT FLIPPER**



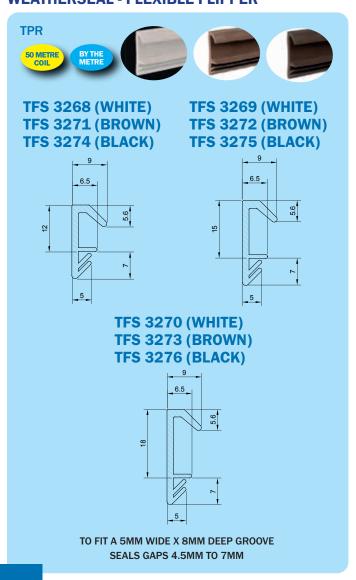


#### **Timber Foam Bubble Seals and Weatherseals continued**

**WEATHERSEAL - ANGLED FLIPPER** 



#### **WEATHERSEAL - FLEXIBLE FLIPPER**



#### **BUBBLE SEALS**



TFS 3296 (WHITE)
TFS 3297 (BROWN)
TFS 3298 (BLACK)

TFS 3299 (WHITE) TFS 3300 (BROWN) TFS 3301 (BLACK)



TO FIT A 2.5MM - 3MM WIDE X 6MM DEEP GROOVE SEALS GAPS 2MM TO 4.5MM



TO FIT A 2.5MM - 3MM WIDE X 6MM DEEP GROOVE SEALS GAPS 2MM TO 5MM

TFS 3302 (WHITE)
TFS 3303 (BROWN)
TFS 3304 (BLACK)

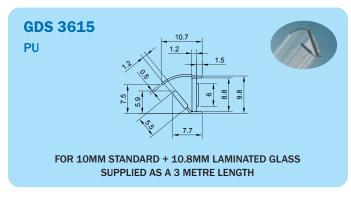


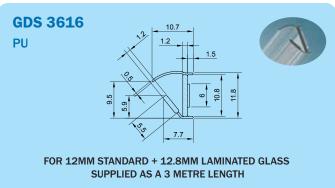
TO FIT A 2.5MM - 3MM WIDE X 6MM DEEP GROOVE SEALS GAPS 3MM TO 7MM

#### **Glass Door Sections**

These glass door seals offer the ideal solution for perimeter and threshold sealing of full height glass doors. They are a two part system comprising of a top and bottom seal and a side seal, both of which can be shaped onsite to accommodate various manufacturers' hardware. The seals combine rigid and flexible elements to ensure the opening and closing of the door is not compromised, whilst at the same time maintaining the low profile and high clarity. Our door seal system is suitable for use on single and double doors with standard (10 and 12mm) and laminated (10.8 and 12.8mm) glass types, the seals have a high bond adhesive tape for ease of application and to prevent delamination under normal conditions of use. The inter-changeability between the top and bottom seal and a side seal allows configurations that can accommodate solid and glazed over panels.

#### SIDE SEAL





#### **TOP AND BOTTOM SEAL**



#### **Crittall Seal**

The seals in these metal windows will deteriorate over time and replacement is the only solution. Our seals are manufactured from EPDM so are UV stable and have a long lifespan.







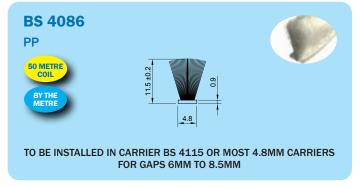
#### **Brush Seals**

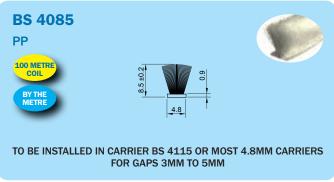
They are recognised within the industry and are recommended for use in heritage and conservation buildings, including Grade I and Grade II listed buildings. They are ideal for draught and weather proofing the top, bottom or side of the sash.

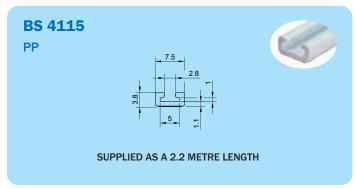
#### **BRUSH SEALS (CARRIER FIT)**

The central fin improves the draught and weather resistance, and the base is designed to fit our carrier. They exhibit good performance in durability and strength and have a very low friction surface.





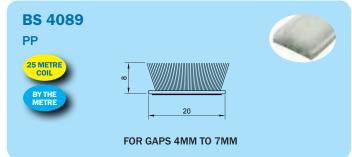


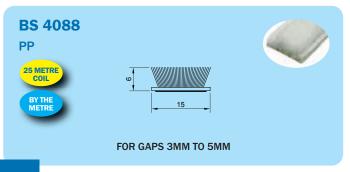


#### **BRUSH SEALS (SELF ADHESIVE)**

These seals may be used in the meeting rail and also between the side of the sash frame and the sash for added draught proofing and to prevent rattle in the wind. The self-adhesive base is a high strength tape adhesive that once stuck to your window will not come off.









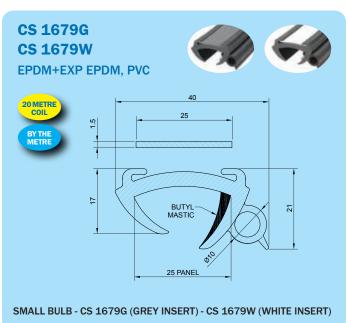




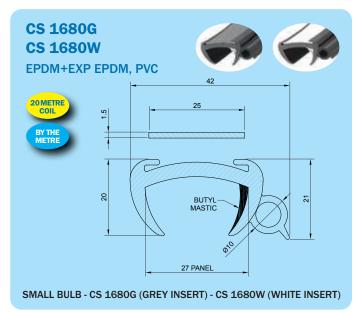
Double glazed opening window seals
Insert strip for opening window seals
Fixed window rubber seals complete with filler strip
Screw cover strip
Caravan door seals
Caravan seals miscellaneous
Caravan and Motorhome cover strip fitting tool

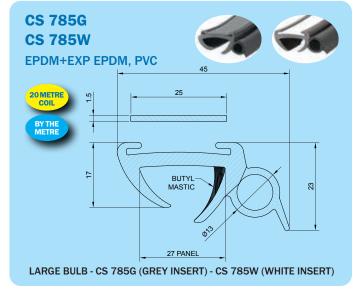
# **Double Glazed Opening Window Seals** Please refer to page 113 for fitting instructions.

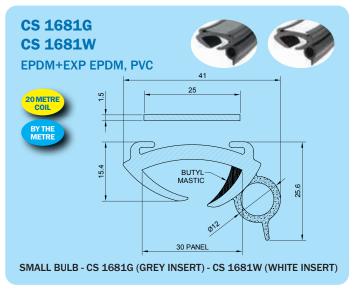








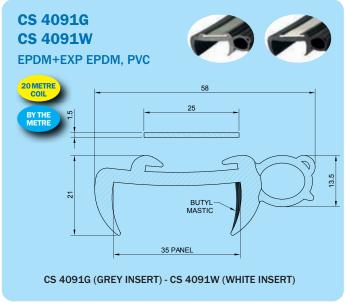






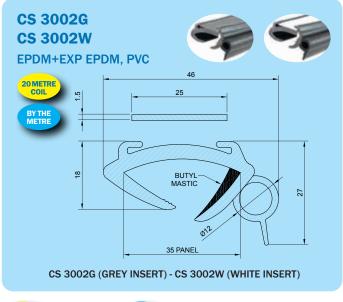
### **Double Glazed Opening Window Seals continued**





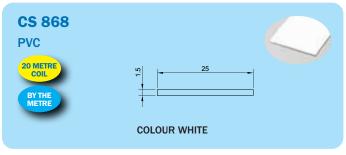


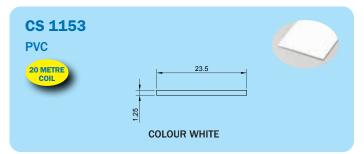


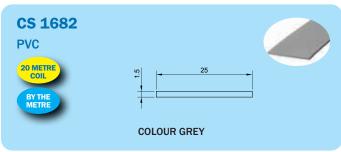


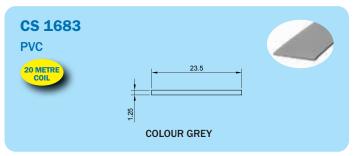


### **Insert Strip for Opening Window Seals**

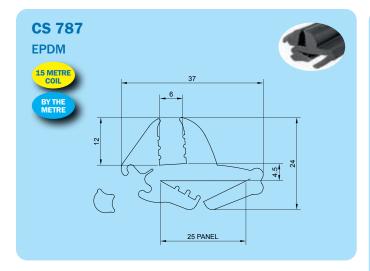




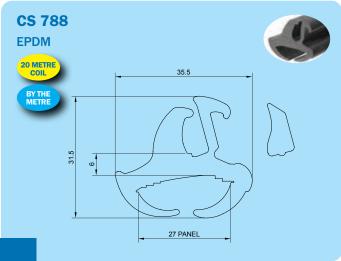




### **Fixed Window Rubber Seals complete with Filler Strip**



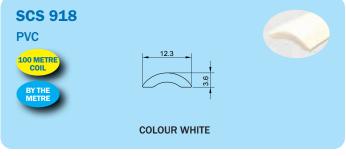


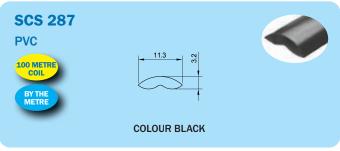


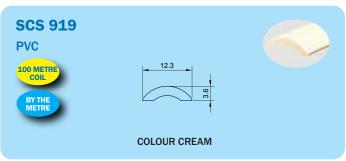
#### **Screw Cover Strip**

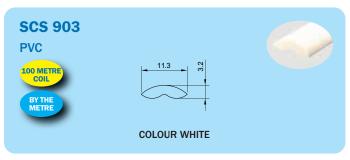
This flexible plastic strip is used to cover screw heads and usually fits into a recess in a window channel or trim.

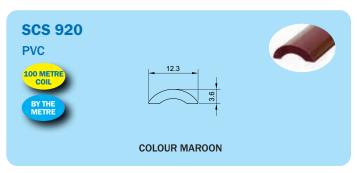


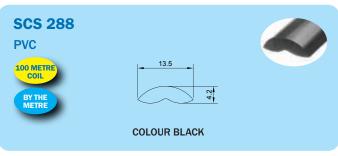


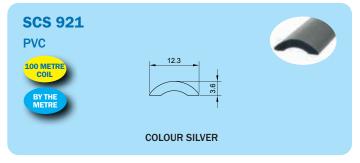


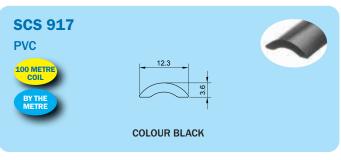


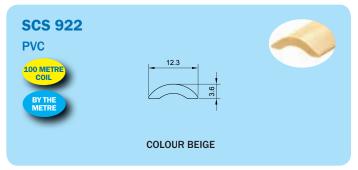






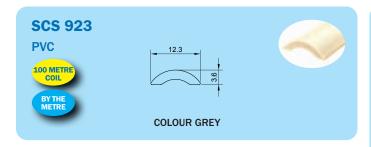


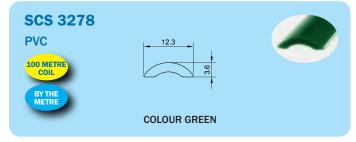


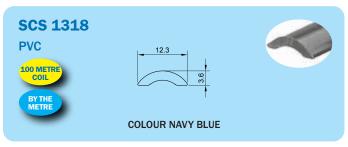


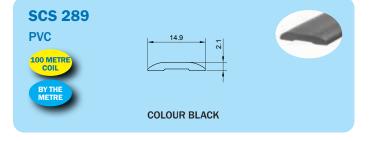


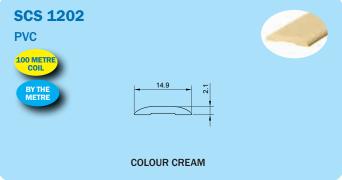
### **Screw Cover Strip continued**

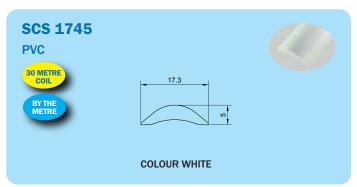












#### **Caravan Door Seals**

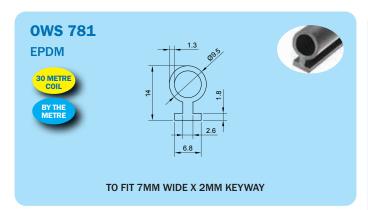


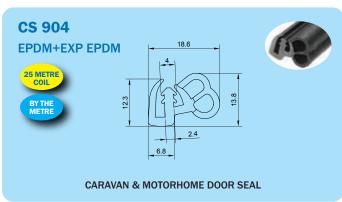




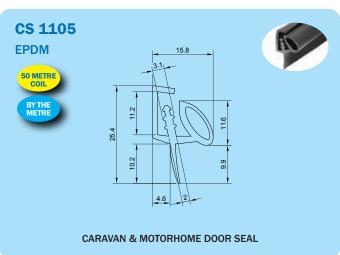


#### **Caravan Door Seals continued**











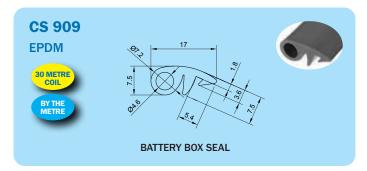


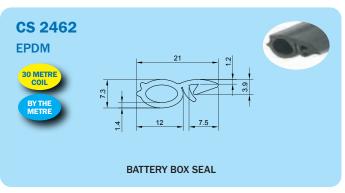


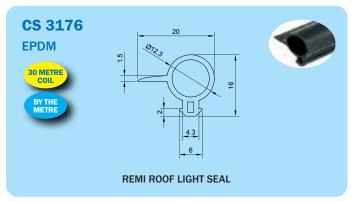


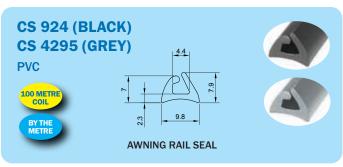


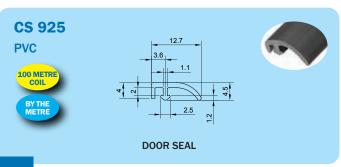
#### **Caravan Seals Miscellaneous**

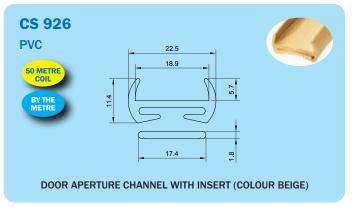


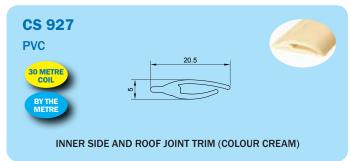


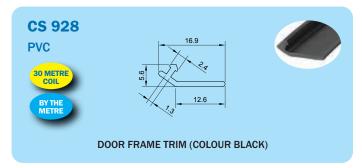


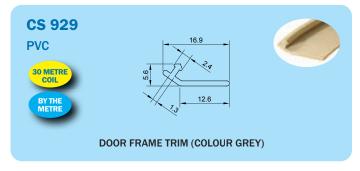


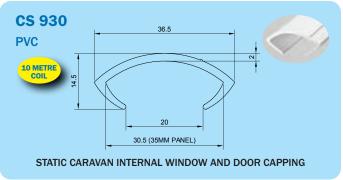








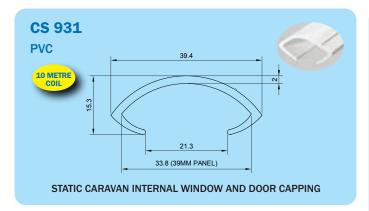


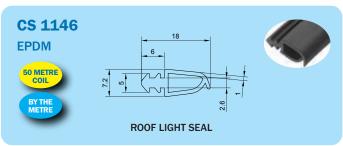


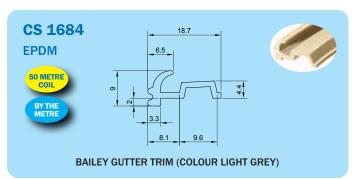


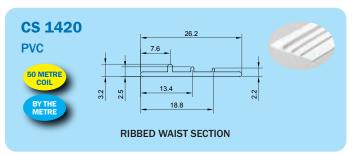


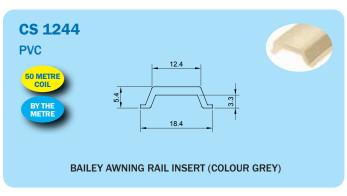
#### **Caravan Seals Miscellaneous continued**

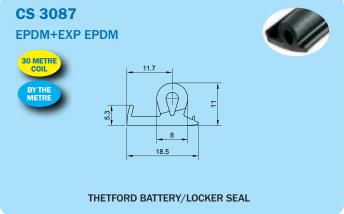




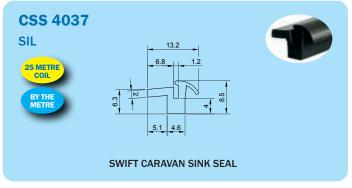


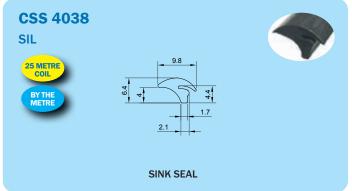
















#### **Caravan Seals Miscellaneous continued**



#### **Caravan & Motorhome Cover Strip Fitting Tool**

This tool has been designed to simplify the fitting of the cover strip to double glazed opening window rubbers.

Please follow the link to view our YouTube video showing how to use the tool: https://www.youtube.com/watch?v=5kthfMx2IFA

A lubricant to go inside the rubber should be used to make the tool slide more easily. This will greatly improve the ease and speed in which you can fit the cover strip. We recommend our silicone spray, order code SS 4363.

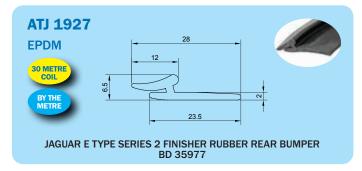


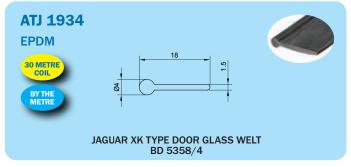


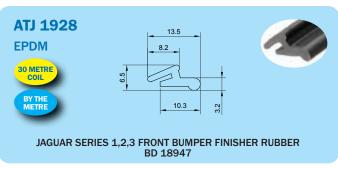


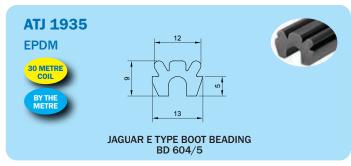
Jaguar seals
Morris Minor seals
MG seals
Land Rover seals
Triumph seals
Mini seals
Windscreen, backlight and quarterlight rubbers
Automotive seals (miscellaneous)
Running board treads
Plastic wing piping

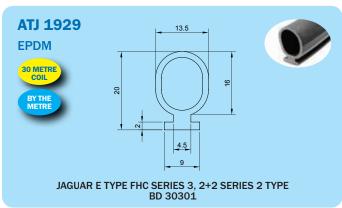
#### **Jaguar Seals**

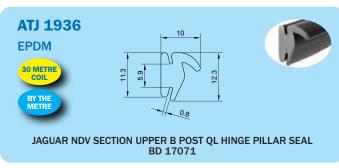


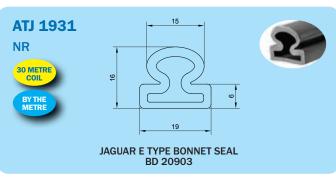


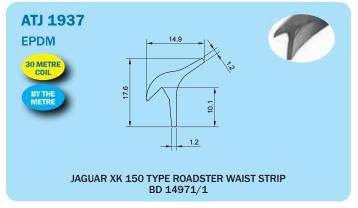


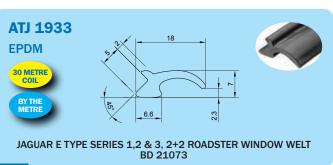


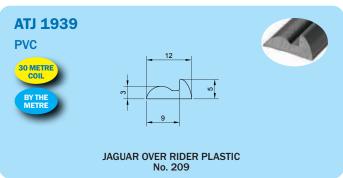




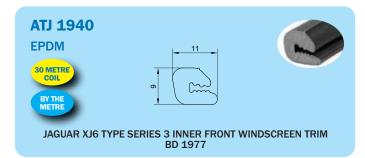


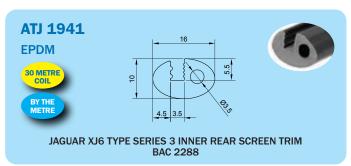


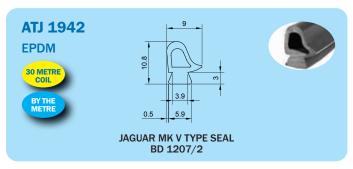


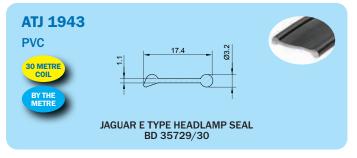


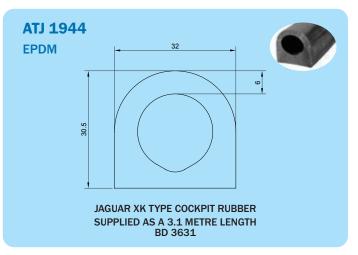
### **Jaguar Seals continued**

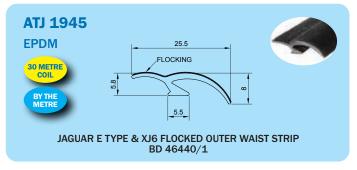










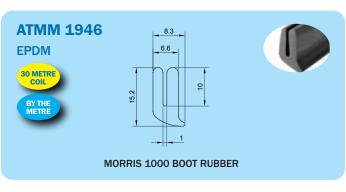


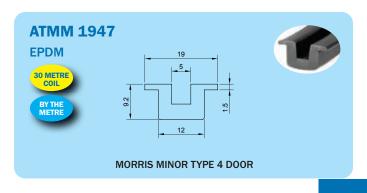
#### ATJ 2466 EPDM

JAGUAR MK2 DOOR SEAL SET COMPRISING OF THE FOLLOWING:

BD 18267 - FRONT LEFT A POST DOOR SEAL BD 18268 - FRONT RIGHT A POST DOOR SEAL BD 19155 - FRONT LEFT B POST DOOR SEAL BD 19156 - FRONT RIGHT B POST DOOR SEAL BD 18271/2/3 - FRONT SILL SEAL BD 18266 - REAR LEFT C POST DOOR SEAL BD 18265 - REAR RIGHT C POST DOOR SEAL BD 18269 - REAR LEFT D POST DOOR SEAL BD 18270 - REAR RIGHT D POST DOOR SEAL

#### **Morris Minor Seals**



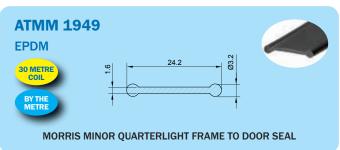






#### **Morris Minor Seals continued**

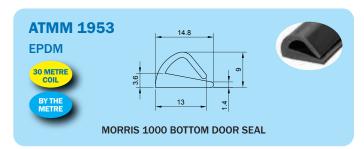


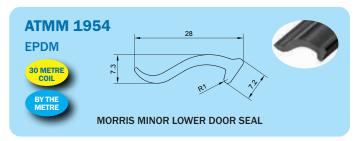


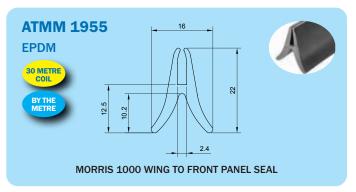


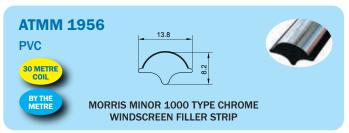








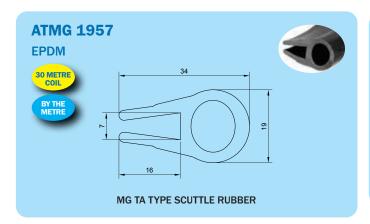




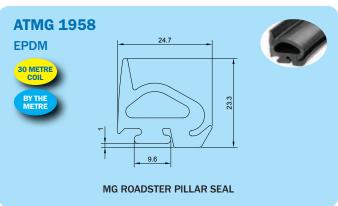


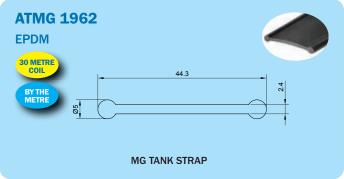


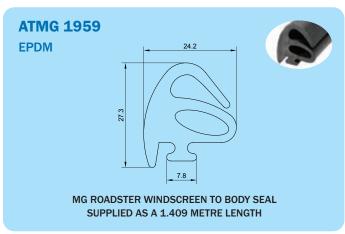
#### **MG Seals**













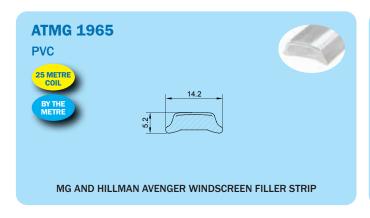


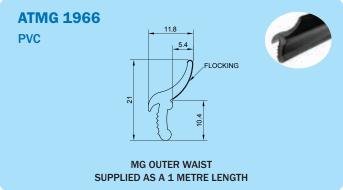




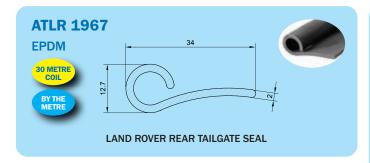


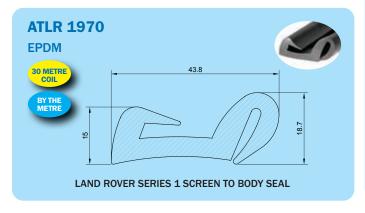
#### **MG Seals continued**





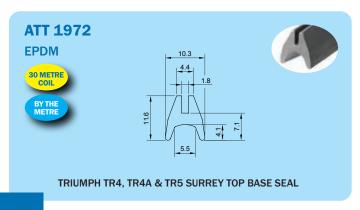
#### **Land Rover Seals**

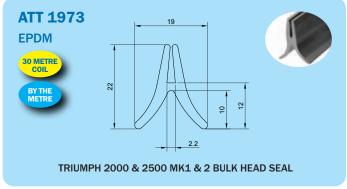






### **Triumph Seals**



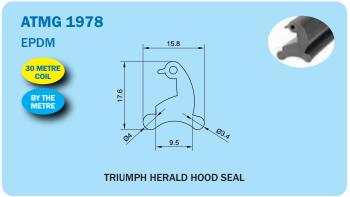


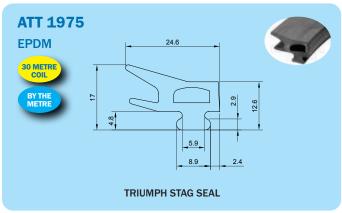


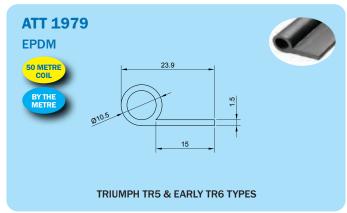


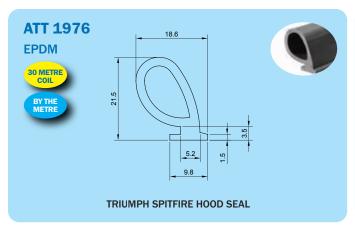
### **Triumph Seals continued**

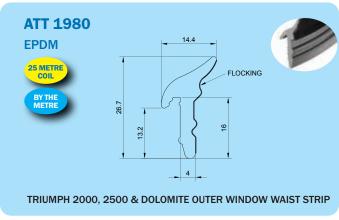




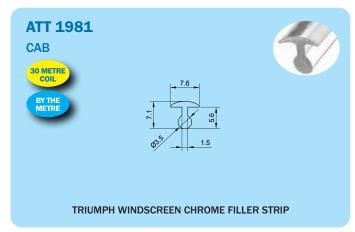








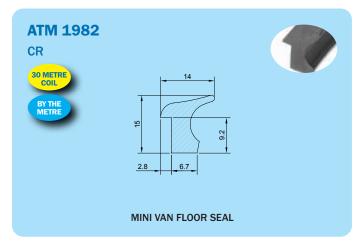






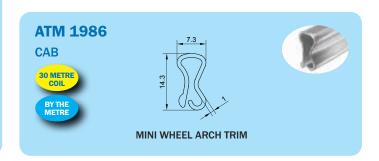


#### **Mini Seals**



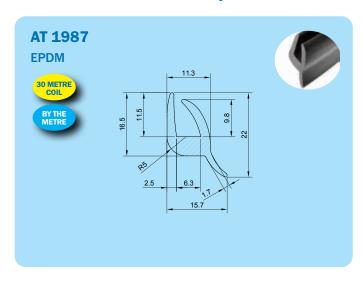






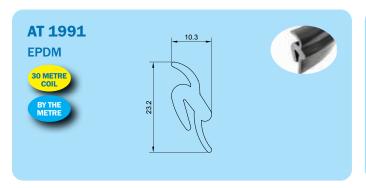
MINI GRILL TRIM

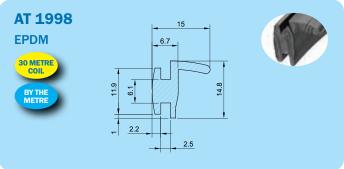
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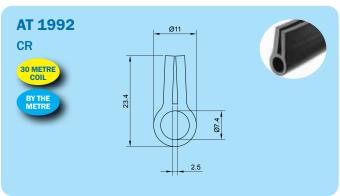


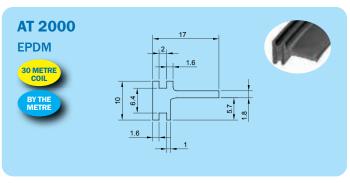


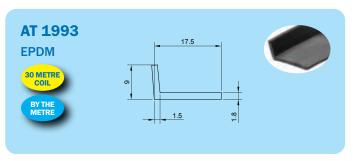
### **Automotive Seals (Miscellaneous) continued**

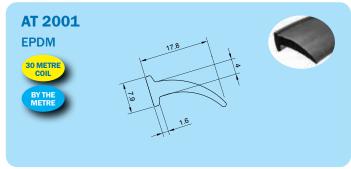


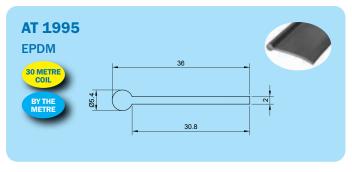


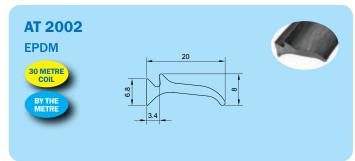


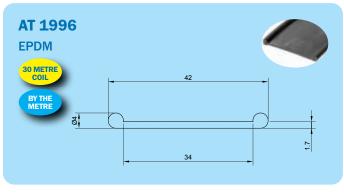


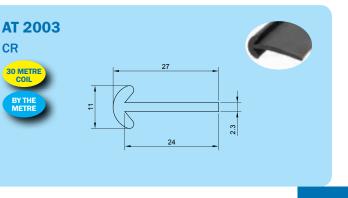








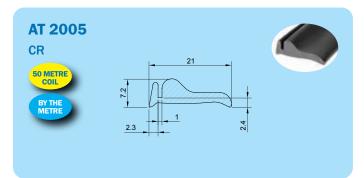


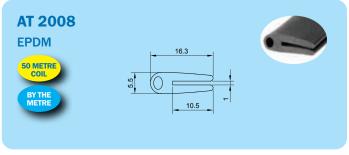


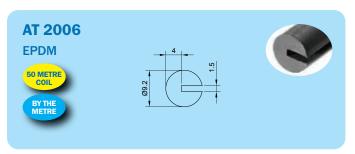


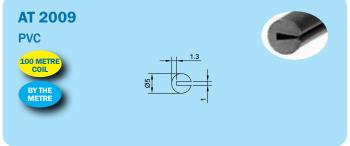


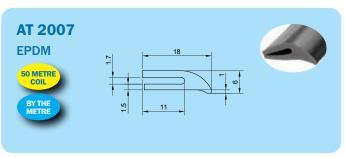
### **Automotive Seals (Miscellaneous) continued**

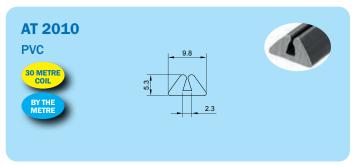




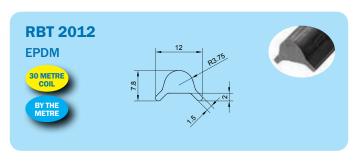


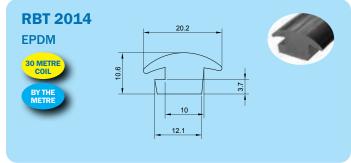


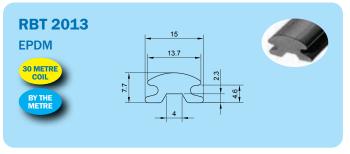




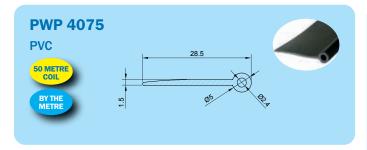
### **Running Board Treads**

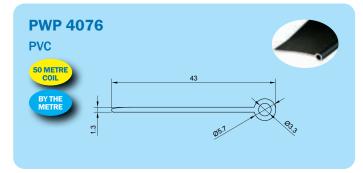


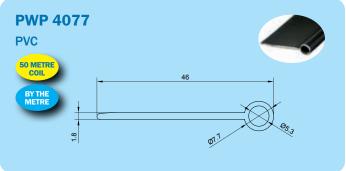


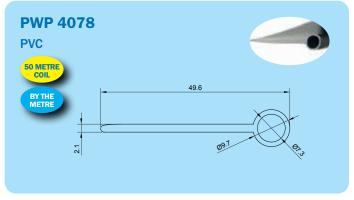


### **Plastic Wing Piping**









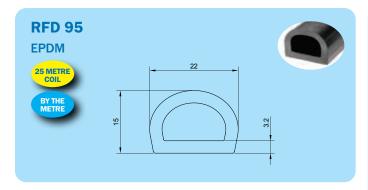


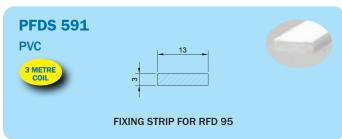


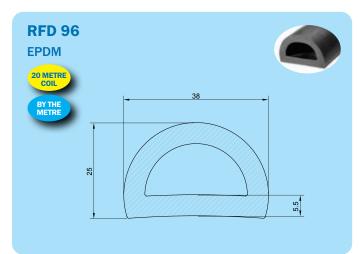
Rubber fenders PVC fenders Aluminium profiles Replacement inserts Easy fit 'D' fender

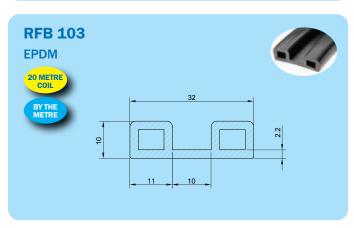
#### **Rubber Fenders**

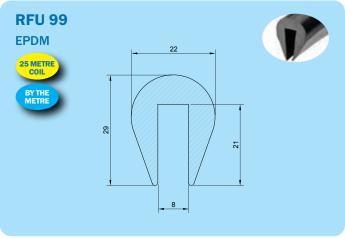
Our rubber fenders are made from a marine quality EPDM rubber, which has excellent weathering, UV and wear resistance properties. When fitting the 'D' shaped fenders don't forget to order the solid neoprene cord for plugging the bolt holes. These can be bonded in place with Polyurethane adhesive our order code S 136. Please refer to page 116 for fitting instructions.

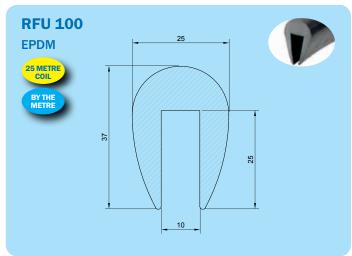


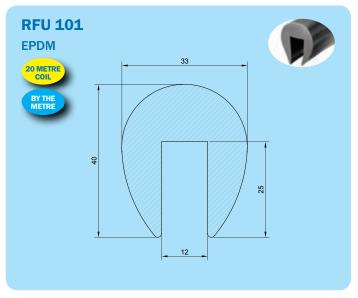








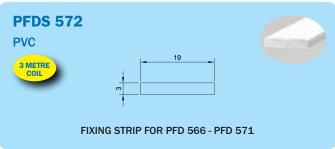


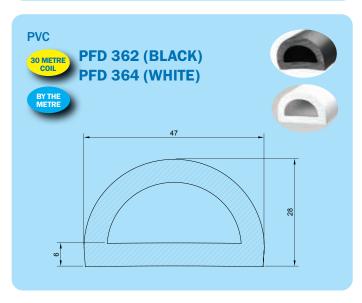


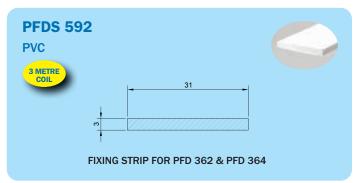
#### **PVC Fenders**

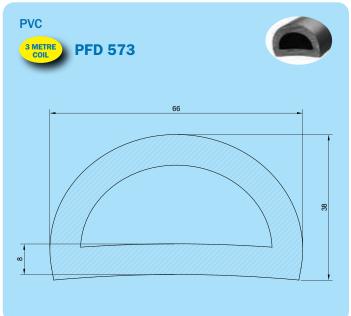
The PVC used for these sections is most suitable for marine conditions.

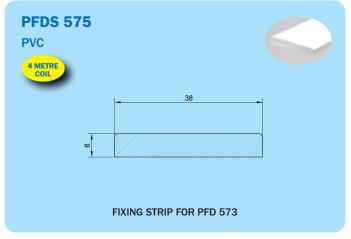


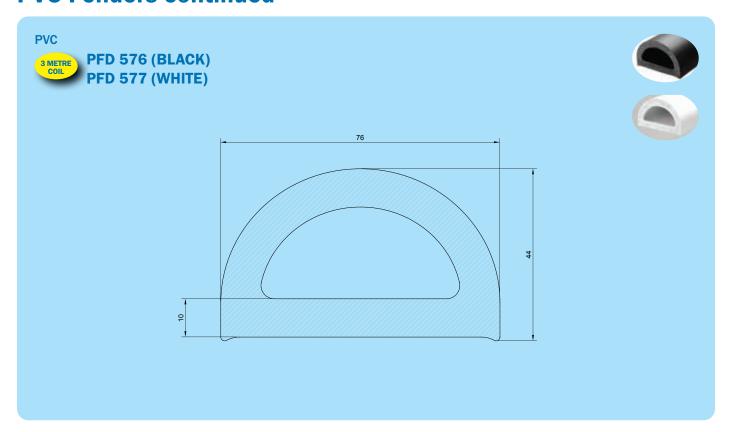


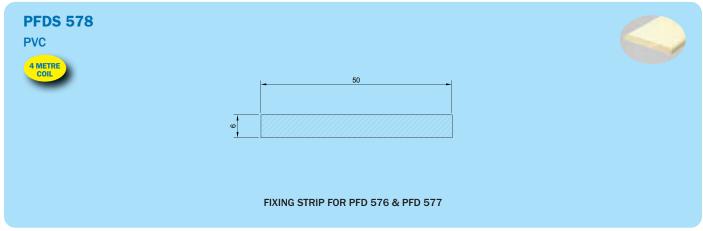


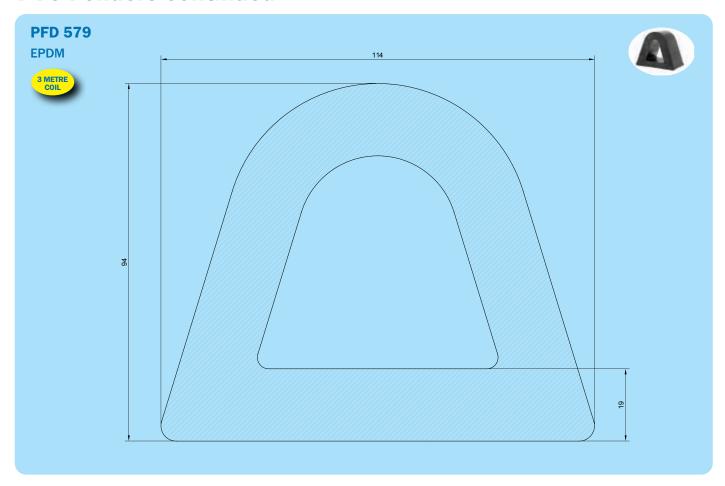


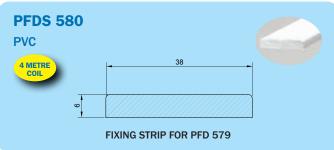




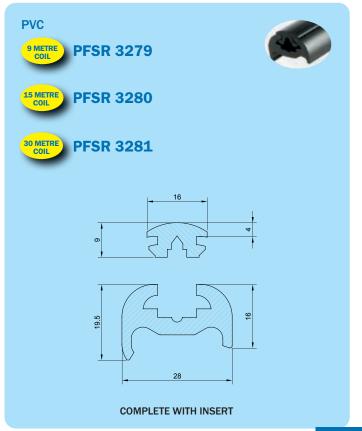










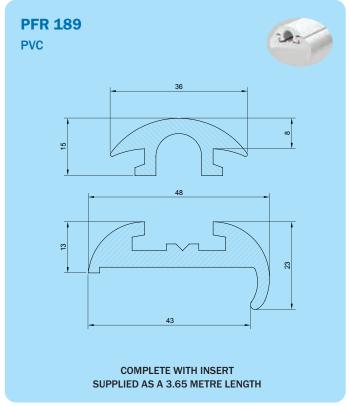


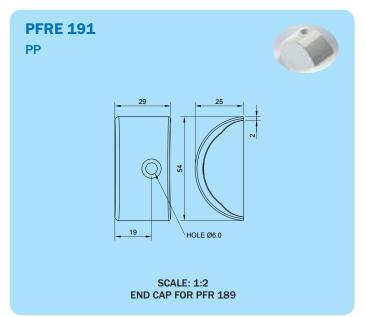




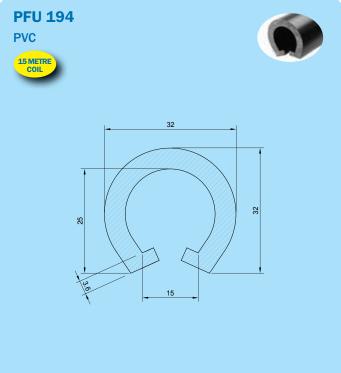


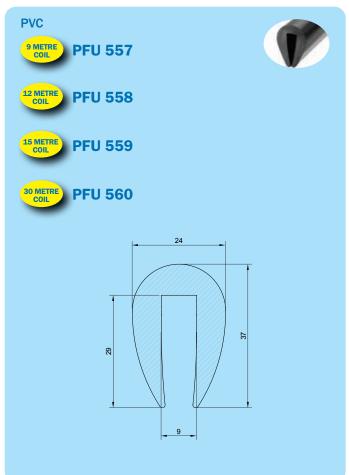


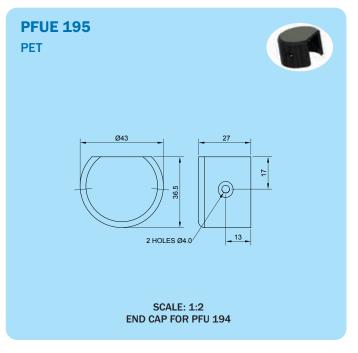






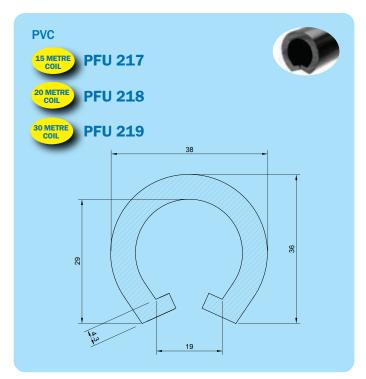


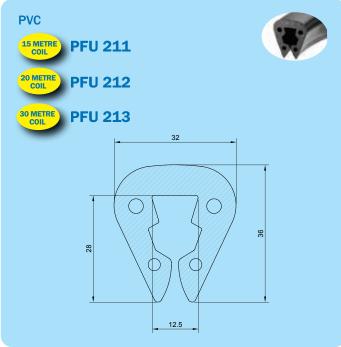


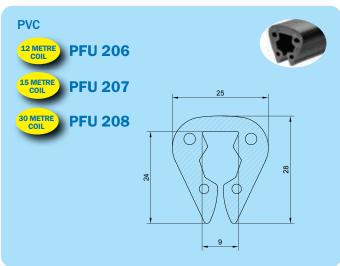


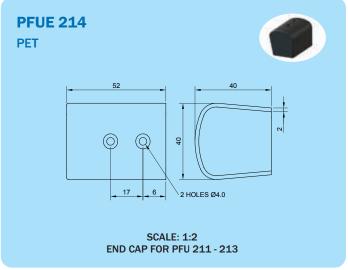


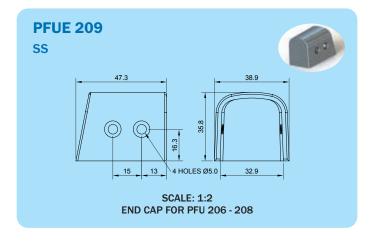


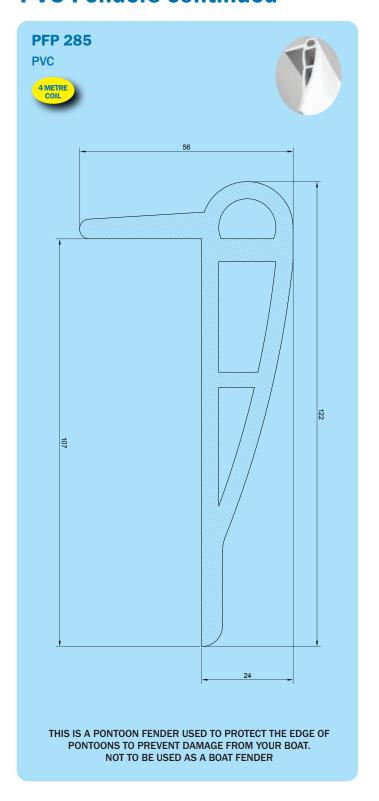








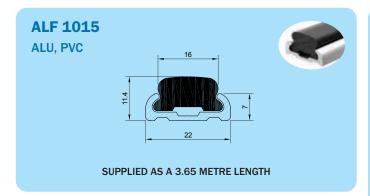


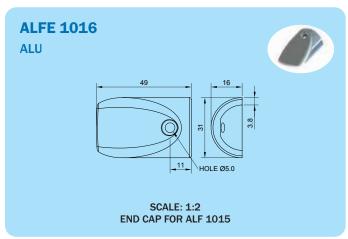


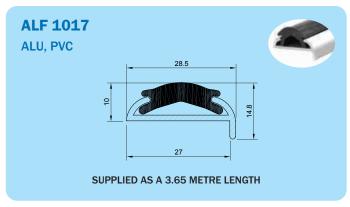




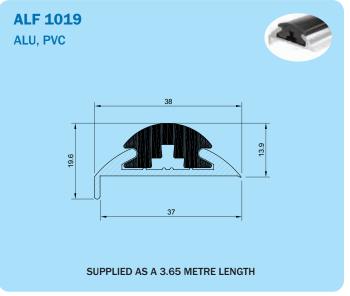
#### **Aluminium Profiles**

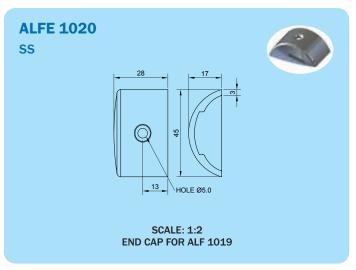










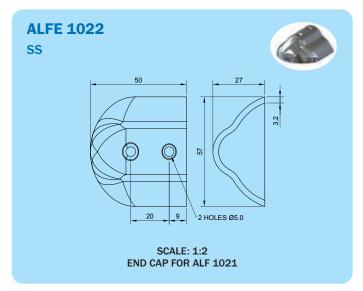


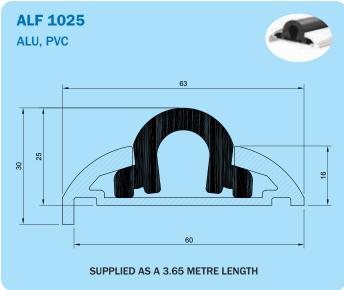


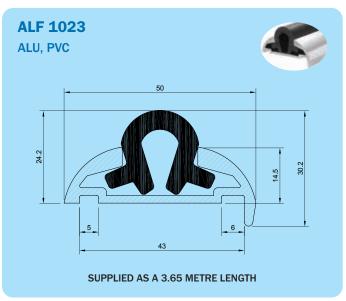


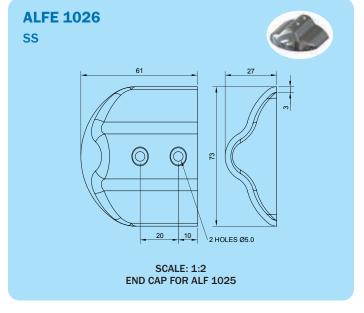


#### **Aluminium Profiles continued**









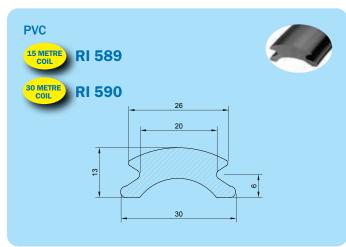


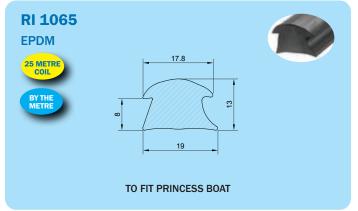




### **Replacement Inserts**



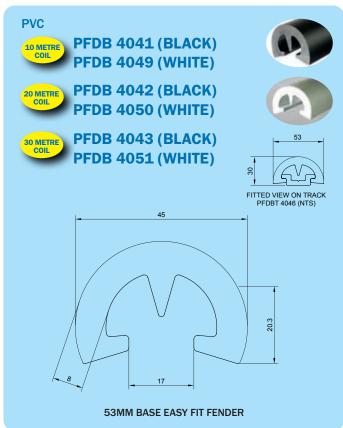




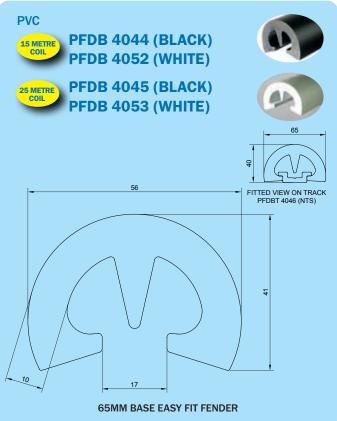


### Easy Fit 'D' Fender

This is our new fendering system which offers simple installation, hidden fixings and high levels of performance.

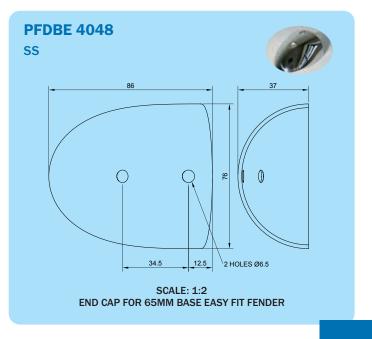




















Braided PVC hose
Unreinforced PVC hose
White sanitary hose
Light duty PVC suction delivery hose
Sterngland rubber tube
Marine diesel exhaust hose
ISO 7840 Fire resistant fuel hose
Stainless steel hose clips

#### **Braided PVC Hose**

This food quality hose is suitable for use on drinking water systems. The red and blue colours make for easy identification on hot and cold water systems. It may also be used to form a protective covering over ropes and wires etc. Able to withstand pressures up to 200psi it may also be used as an airline hose.



| ORDER CODE | COLOUR | ID MM | OD MM |
|------------|--------|-------|-------|
| NBH 104    | CLEAR  | 6     | 12    |
| NBH 105    | CLEAR  | 10    | 16    |
| NBH 106    | CLEAR  | 12    | 19    |
| NBH 107    | RED    | 12    | 19    |
| NBH 108    | BLUE   | 12    | 19    |
| NBH 109    | CLEAR  | 19    | 26    |

#### **Unreinforced PVC Hose**

This food quality hose is suitable for use on drinking water systems. It can also be used as a protective covering to go over rope and wire.



| ORDER CODE | COLOUR | ID MM | OD MM |
|------------|--------|-------|-------|
| H 110      | CLEAR  | 6     | 9     |
| H 111      | CLEAR  | 9     | 12    |
| H 112      | CLEAR  | 13    | 19    |
| H 113      | CLEAR  | 19    | 25    |

### **White Sanitary Hose**

This low odour permeable hose has been specially designed for use on marine toilets, where odour has previously been a problem.



| ORDER CODE        | COLOUR       | ID MM | OD MM |
|-------------------|--------------|-------|-------|
| SH 114            | WHITE        | 19    | 25    |
| SH 115            | WHITE        | 25    | 32    |
| SH 116            | WHITE        | 38    | 45    |
| PVC 30 METRE COIL | BY THE METRE |       |       |

### **Light Duty PVC Suction Delivery Hose**

This spirally reinforced PVC hose is suitable for bilge pumps, cockpit drains etc. It will withstand pressures up to 85psi.



| ORDER CODE | COLOUR | ID MM | OD MM |
|------------|--------|-------|-------|
| SDH 117    | BLACK  | 19    | 25    |
| SDH 118    | GREEN  | 19    | 25    |
| SDH 119    | BLACK  | 25    | 32    |
| SDH 120    | GREEN  | 25    | 32    |
| SDH 121    | BLACK  | 38    | 45    |
| SDH 122    | GREEN  | 38    | 45    |

#### **Sterngland Rubber Tube**

This heavily reinforced rubber tube is specially designed for use on sterngland fittings.

Sizes range from 1" to 4" going up in 1/8" increments. Because it is such a special tube, and is only ever used in small quantities it is sold by the inch.

Details and prices are available upon request.

#### **Marine Diesel Exhaust Hose**

This wet exhaust hose has Lloyds and RINA approval. (Certificate numbers Lloyds 99/00027(E1)APP and RINA DIP/4855/03/CS/E/1).

Its construction, using top quality materials gives it superiority in its application within engine compartments of fishing boats, workboats, pleasure craft, etc.

A very tight bend radius capability aids compact installations and using good quality clamps dispenses with the need to cuff the hose, thus avoiding damage to the hose end. It is also an ideal fuel hose and can be used with total confidence in marine generator applications.



| ORDER CODE     | ID MM | OD MM | MIN BEND<br>RAD MM |
|----------------|-------|-------|--------------------|
| MDE 593        | 20    | 30    | 60                 |
| MDE 594        | 25    | 35    | 75                 |
| MDE 595        | 32    | 42    | 96                 |
| MDE 596        | 35    | 45    | 105                |
| <b>MDE 597</b> | 38    | 48    | 114                |
| MDE 598        | 40    | 50    | 120                |
| MDE 599        | 45    | 55    | 135                |
| MDE 600        | 51    | 61    | 153                |
| MDE 601        | 57    | 67    | 171                |





#### **Marine Diesel Exhaust Hose continued**

| ORDER CODE     | ID MM | OD MM | MIN BEND<br>RAD MM |
|----------------|-------|-------|--------------------|
| MDE 602        | 60    | 70    | 180                |
| MDE 603        | 63    | 73    | 189                |
| <b>MDE 604</b> | 70    | 80    | 210                |
| MDE 605        | 76    | 86    | 228                |
| MDE 606        | 90    | 100   | 270                |

| ORDER CODE       | ID MM | OD MM | MIN BEND<br>RAD MM |
|------------------|-------|-------|--------------------|
| <b>MDE 607</b>   | 102   | 112   | 306                |
| MDE 608          | 115   | 129   | 345                |
| <b>MDE 609</b>   | 127   | 141   | 381                |
| MDE 610          | 140   | 152   | 423                |
| MDE 611          | 152   | 166   | 456                |
| NBR/CR BYTH METR |       |       |                    |

#### **ISO 7840 Fire Resistant Fuel Hose**

Under recent legislation all inland waterways boats have to be fitted with this ISO 7840 fire resistant fuel hose. It is fully CE marked. As of June 1998 all sea going vessels built to the Recreational Craft Directive 94/25/EC must now be fitted with this hose.



| ORDER CODE          | ID MM | OD MM |
|---------------------|-------|-------|
| ISO 123             | 6     | 14    |
| ISO 124             | 8     | 16    |
| ISO 125             | 10    | 17    |
| ISO 126             | 13    | 21    |
| ISO 127             | 16    | 25    |
| ISO 128             | 19    | 32    |
| ISO 129             | 25    | 39    |
| ISO 170             | 38    | 54    |
| ISO 171             | 50    | 66    |
| NBR/CR BY THE METRE |       |       |

### **Stainless Steel Hose Clips**

All clips are made from 18/8 marine quality stainless steel.



| ORDER CODE      | TO FIT HOSE OD SIZE MM |
|-----------------|------------------------|
| SSHC 130        | 9.5 - 12               |
| SSHC 131        | 13 - 20                |
| SSHC 132        | 18 - 25                |
| SSHC 133        | 22 - 30                |
| <b>SSHC 134</b> | 32 - 45                |
| SSHC 135        | 40 - 55                |
| SS              |                        |







Adhesives and sealants
Tools

#### **Adhesives and Sealants**

Polyurethane and Silicone are suitable for sealing windows and making flexible joints. Thixofix is a good general purpose contact adhesive for rubber, wood, plastic, metal, etc. It has however only a moderate resistance to water. Where a fully waterproof joint is required we recommend our order code A 262.

For usage quantities please refer to page 119.











|        | VA/IDTU BABA  | TILL BARA    | LENGTHA  |
|--------|---------------|--------------|----------|
|        |               |              | LENGTH M |
| S 3286 | 12            | 2            | 22.5     |
| S 4093 | 20            | 5            | 9.6      |
| S 4094 | 25            | 1.5          | 30       |
| S 3287 | 25            | 3            | 15       |
| S 4095 | 40            | 2.5          | 19       |
| BUTYL  |               |              |          |
|        |               |              |          |
|        |               |              |          |
|        |               | -            |          |
|        | <u> </u>      |              |          |
|        |               |              |          |
|        |               |              |          |
|        |               |              |          |
| -      | NON SETTING B | UTYL GLAZING | TAPE     |
|        |               |              |          |







### **Adhesives and Sealants continued**







#### **Tools**

Various tools to aid in the preparation and fitting of our seals.









### **Tools continued**

Various tools to aid in the preparation and fitting of our seals.











Rubber floor mats
Honeycomb mats
Ribbed matting
Anti-fatigue matting
Treadmaster (Diamond pattern) anti-slip deck covering
Noise insulation material

#### **Rubber Floor Mats**

Suitable for heavy industrial areas, horse stables, dog kennels and runs, weight lifting areas, etc.



#### **ORDER CODE**

#### M 243

DESCRIPTION: Pimple/cobblestone top surface, grooved underside

SIZE: 1.828m x 1.22m x 17mm thick

NR/SBR

#### **Honeycomb Mats**

As the name suggests, they are of a honeycomb design, featuring approx 19mm diameter holes. They are ideal for waterlogged boat decks, as well as covering soft or muddy ground.



#### **ORDER CODE**

#### M 615

DESCRIPTION: Honeycomb design, 19mm diameter holes SIZE: 1.5m x 1m x 23mm thick

NR/SBR

#### **Ribbed Matting**

An ideal general purpose matting for protecting floors.





#### **ORDER CODE**

#### M 620

**DESCRIPTION: Ribbed top surface** 

SIZE: 10m x 1m x 3mm thick

#### M 621

DESCRIPTION: Ribbed top surface

SIZE: 10m x 1m x 6mm thick

NR/SBR

### **Anti-fatigue Matting**

This soft PVC matting is designed for use by machines and work areas, where operators are standing for long periods of time.



#### ORDER CODE

#### M 622

DESCRIPTION: Soft PVC matting

SIZE: 18.3m x 0.91m x 9.5mm thick

**PVC** 

MAY BE SUPPLIED IN ALL GREY OR WITH YELLOW SAFETY EDGING

### **Treadmaster (Diamond Pattern) Anti-Slip Deck Covering**

This range of anti-slip deck coverings has been designed for maximum comfort and safety. It is manufactured from a controlled blend of polymers and cellular materials. Treadmaster is supplied as a durable, homogenous sheet, which is simply cut to the desired shape and bonded directly onto the deck surface using our order code TM 230 adhesive and without any special tools or processes. Our order code A 262 adhesive may be used as an alternative.



| ORDER CO | DDE COLOUR |
|----------|------------|
| TM 224   | WHITE SAND |
| TM 225   | GREY       |
| TM 226   | LIGHT GREY |
| TM 227   | FAWN       |
| TM 228   | BLUE       |
| TM 229   | LIGHT BLUE |
| NBR/PVC  |            |
| TM 230   | ADHESIVE   |

#### **Noise Insulation Material**

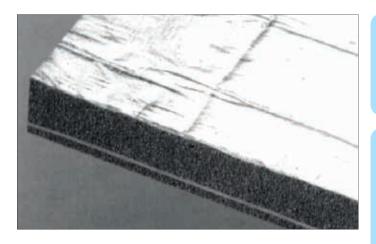
This Class 'O' flexible material makes an ideal acoustic barrier where noise is a problem. Its construction comprises of an acoustic lead sheet sandwiched between two layers of fire resistant foam, with a bright class 'O' reinforced foil facing to one side. It is available in two weights, 5Kg and 10 Kg. It can be bonded in place with a good quality contact adhesive such as our order code A 262.

Fire rating BS476 Part 6 index 1 10.3 sub index 15.3

BS476 Part 7 Class 1

Building regulations 1976 section E15:class 'O'

#### Acoustic performance



| SOUND TRANSMISSION LOSS |     |     |     |            |    |    |    |
|-------------------------|-----|-----|-----|------------|----|----|----|
|                         | 125 | 250 | 500 | <b>1</b> K | 2K | 4K | Hz |
| 5Kg                     | 12  | 14  | 16  | 24         | 26 | 33 | dB |
| <b>10</b> Kg            | 16  | 21  | 25  | 30         | 35 | 40 | dB |

#### **ORDER CODE**

#### NI 617

WEIGHT: 5 Kg

SIZE: 1.2m x 0.6m x 24mm thick

#### NI 618

WEIGHT: 10 Kg

SIZE: 1.2m x 0.6m x 25mm thick

PB





Bespoke extrusions Bespoke mouldings Bespoke gaskets

If your sealing requirements cannot be met by one of our standard products, we are able to offer a custom design and manufacture solution. We have full 3D CAD facilities and 3D printers. This enables us to work with you on your custom design and also liaise with Design Engineers electronically. In addition to being able to print solid plastic components with a range of material specifications we are also able to print rubber parts (up to 100mm in length) in different grades which will enable you to test the seal out before committing to tooling.



We are also able to reverse engineer an existing seal from a sample. This can be useful where the manufacturer of the existing seal has either gone out of business or is unknown.

Our ability to work alongside our clients developing tailored, cost effective solutions has made us a leading name in Customised Profile Engineering for many years.

### **Bespoke extrusions**

We are able to extrude rubber seals in a variety of materials such as EPDM, PVC, Nitrile, Neoprene & Silicone, to name but a few and in various hardness's. We can produce extrusion dies at a very cost effective price and with a quick turnaround. Minimum production runs can be as low as 30 metres depending on the material and construction.



#### **Bespoke mouldings**

Rubber mouldings can be produced by either compression or injection moulding. We are able to mould rubber seals in a variety of materials such as EPDM, PVC, Nitrile, Neoprene & Silicone, to name but a few and in various hardness's. Minimum production runs can be low as a one off up to thousands off.

#### **Bespoke gaskets**

We can manufacture gaskets either by stamping from sheet or machining from solid. We are able to manufacture them from a variety of materials such as Neoprene, Nitrile Polyethylene & Cork to name but a few and in various hardness's. Minimum production runs can be as low as a one off up to thousands off.



Involving us at an early stage of product development can offer significant advantages in product performance and costs further down the line. Our expertise in every aspect of rubber extrusion, moulding and gasket manufacture from tool design and material selection, through to prototyping and bulk production will improve the likelihood of your product being 'right first time'.



Bend radius diagram definitions and conversion table

**Hints and tips** 

Window seals

**Replacing Claytonrite window seals** 

Adapting a Claytonrite window rubber

Measuring the gap for wedge seals

Refurbishing aluminium window frames

Replacing a Caravan and Motorhome opening window rubber

Locker and hatch seals

**Fitting fenders** 

Installation instructions for watertight door and hatch seals

How to provide details of your seal

**Using adhesives** 

**Guide for dimension tolerances on drawings** 

How to measure a corner radius

### **Bend radius diagram definitions**

The diagram below demonstrates in real terms what the bend radius diagrams mean that are located on the right-hand side of some drawings.



The figures indicate the minimum radius that the seal can be bent around whilst still allowing it to fit correctly and without affecting the sealing face.

Should you find that the bulb (sealing tube) compresses slightly when bending it you can fit a short piece of expanded neoprene cord inside the bulb at the corner to help this.

You can also use a short length of expanded neoprene cord to join the two ends of the bulb together.

#### **Conversion table**

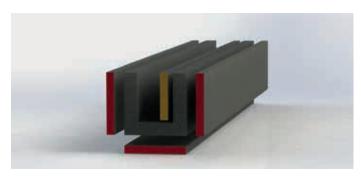
Below is a list of popular conversions between Metric and Imperial.

#### **LENGTHS**

| MILLIMETRES<br>(mm) | INCHES        | MILLIMETRES (mm)     | INCHES                    |
|---------------------|---------------|----------------------|---------------------------|
| 1.6                 | 1/16          | 12.7                 | 1/2                       |
| 3.2                 | 1/8           | 15.9                 | 5/8                       |
| 4.8                 | 3/16          | 19.0                 | 3/4                       |
| 6.4                 | 1/4           | 22.2                 | 7/8                       |
| 8.0                 | 5/16          | 25.4                 | 1                         |
| 9.5                 | 3/8           | 38.1                 | 1.5                       |
| MISCELLANEOUS       |               |                      |                           |
| 1 F00T              | 0.3048 METRES | 1 F00T <sup>2</sup>  | 0.0929 METRE <sup>2</sup> |
| 1 METRE             | 3.281 FEET    | 1 METRE <sup>2</sup> | 10.76 FOOT <sup>2</sup>   |
| 1 YARD              | 0.9144 METRES | 1 BAR                | 14.5 PSI                  |

#### **Hints and tips**

If we are unable to supply a product that is exactly the size you require try adapting one of our existing products by using the following methods:



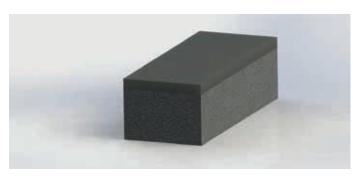
#### 'U' Channels

Laminate solid neoprene strip (red ends) onto the sides and/or bottom of the channel to increase its overall dimensions or insert into the gap (yellow end) in the 'U' to decrease its internal dimensions.



#### 'P' or Tadpole sections

Laminate solid neoprene strip onto the base (red end) to increase its height or onto its flange (yellow end) to increase the length of the flange.



#### **Hatchseals**

To make a hatch seal that is soft enough to compress but has a hard wearing skin, try laminating solid neoprene onto expanded neoprene strip using contact adhesive our order code A 139 or A 262.



#### **Expanded or Solid Neoprene**

If the size that you require is not listed and we are unable to obtain it for you, try laminating two sections together.

#### **Window Seals**

Listed below are the most common types of seals used on boat windows. Obviously some boat manufacturers like to have a design peculiar to them (these are not necessarily shown below). We would be pleased to try and source rubber sections for you or come up with an alternative product that will be suitable for your application. Please either send us a sample or a sketch of the section giving dimensions and material type that you require.



#### Type 1

Claytonrite type window rubber. The cabin side and glass fit into slots in the rubber section, which are held in place by means of a filler strip.

Various sizes are available dependent on thickness of glass and panel.

Refer to either our (link below) or see page 107 for fitting instructions.

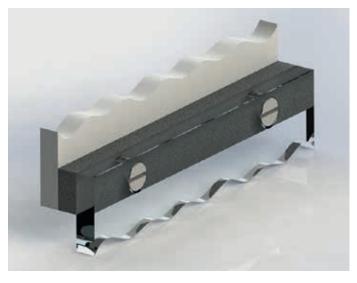
https://www.youtube.com/watch?v=RuIRUaUrVFI



#### Type 2

The window is located in a rubber 'U' shaped channel inside of an aluminium channel, which is fixed to the boat.

It is advisable to bed the glass and rubber in with silicone our order code S 138.



#### Type 3

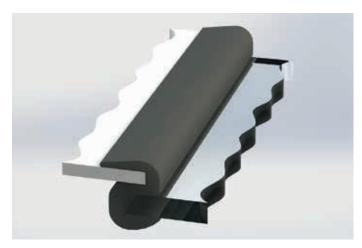
A rubber sealing strip is compressed between the cabin side and window.

The best material is either the plain or adhesive backed Expanded Neoprene. This can either be supplied in strip or sheet form.

It is always advisable to smear clear silicone onto the faces of the above material. This will take out any imperfections in the cabin side and also help to keep the gasket in place.

It is also advisable to make pilot holes in the seal for the screws. This will help prevent the seal from being damaged when the screws are being tightened.

#### **Window Seals continued**

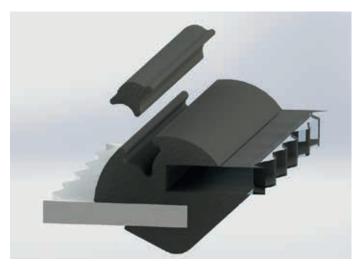


### Type 4

'S' shaped window rubber. This seal is used for sealing small windows that overlap the panel.

There are 2 sizes available for varying thicknesses of panel and window.

This seal does not require a filler strip and is not suitable for larger windows.



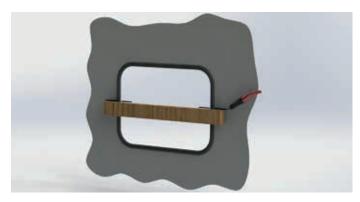
#### Type 5

'S' shaped window rubber with filler strip. This seal is used for sealing windows that overlap the panel.

There are 2 sizes available for varying thicknesses of panel and window.

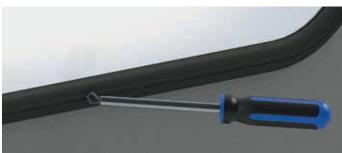
#### **Replacing Claytonrite Window Rubber**

This document explains the basics of removing your old window rubber. This will allow you to take some measurements to enable you to calculate the size of the seal to replace it. We then explain how to fit your new seal.



### **Removing old seal**

The first step is to take some measurements. You will need a length of wood which is longer than the width of your window. This should be held horizontally across the middle of your window and then using a marker pen put a line on the glass and the panel on each side as shown.

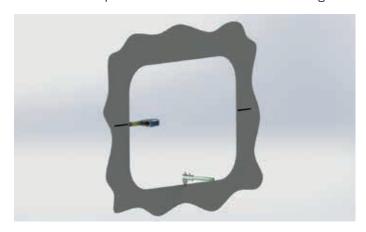


You now need to find the joint in the filler strip and using the glazing tool insert it in the joint and extract one end of the filler strip. Then grasp the end of the filler strip and pull it out all the way around the seal.



The next step is to remove your window. This can be done by inserting the glazing tool into the top middle face of the seal and pushing around the back of the window. The window can then be levered forward towards you and lifted away. The old seal can now be removed.

You can now measure the width of the window and the panel at the marker points on each side. You can also measure the thickness of the panel and the window. Refer to the images below:





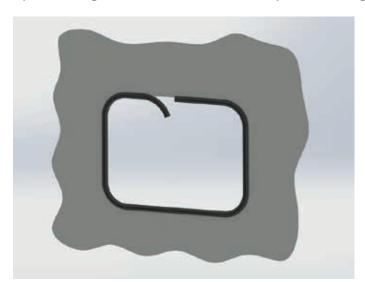
#### **Replacing Claytonrite Window Rubber continued**

The web thickness can now be calculated by subtracting the width of the panel (measured earlier) from the window width (measured earlier) and then dividing the result by 2. With this dimension and the panel and window thickness you can work out which is the correct Claytonrite window rubber for you by checking against the details in the Window Rubbers (Claytonrite) section. You will need to measure the length you require, however ensure that you order slightly more than you measured.

#### Fitting seal and window

After purchasing the correct window rubber and filler strip you are now in a position to start the fitting procedure as detailed below:

If you are fitting more than one window then cut your seal to length ensuring that it is slightly longer than you need.



The first thing to do is start fitting the window rubber to the panel. Ensure you choose the correct orientation if your panel thickness is different from your window thickness and the filler strip groove should be on the outside. Start at the middle of the top of the window aperture and work your way around pushing it tight against the panel edge especially in the corners. When you have reached the start then cut it to length ensuring it is slightly longer so that when you push finally into place it is a very tight fit. Refer to the diagram.

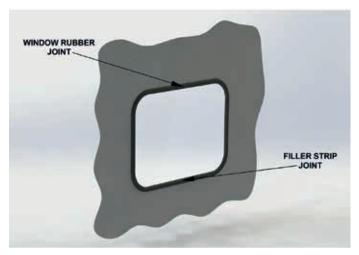


Next pour a small amount of diluted washing up liquid in the glass groove of the window rubber to make it easier to fit. Now take the glass and insert it into the bottom groove of the window rubber. Using the glazing tool you can lever the glass into the window rubber groove all the way around.

### **Replacing Claytonrite Window Rubber continued**



It is now time to fit the filler strip. Before doing this pour a small amount of diluted washing up liquid in the channel that it is to be fitted. Starting at the middle of the bottom, insert the glazing tool into the groove and place the filler strip into the loop of the tool. Run the tool around the groove following the length of filler strip. This should now be placing the filler strip into the groove.



Once you have fitted the filler strip all the way around, trim off any excess making sure that it is slightly longer and then push the final end in.

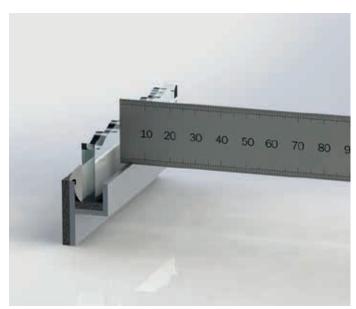
### **Adapting a Claytonrite Window Rubber for different thicknesses**



If we don't have the correct Claytonrite window rubber for your application a standard version can be adapted by fitting a piece of rubber inside one of the gaps to take up the difference. This can then be carefully cut down as shown in the diagram:

### **Measuring the gap for Wedge Seals**

The diagram below shows the method for measuring the gap between your window frame and your window so that you can determine which wedge seal is the correct one for your application.



The diagram opposite shows a typical window installation however there are various types but the principle is the same for which ever installation you have.

# Refurbishing Aluminium window frames Fixed windows

Over a period of time the rubber seals in window frames tend to deteriorate and start to let in water. The only option is to replace them with a new seal. Temporary repairs can be made using a silicone sealant, but these don't last very long.

The following procedures should be followed:

Remove all the fixing screws from the frame. This is normally a two person job, as you need one at either end of the fixing screws.

Carefully remove the window frame from the aperture making sure that you do not apply pressure to the frame and bend it. If the frame has been bonded in place with mastic, use a flat bladed scraper and ease it around the joint until the old mastic gives way.

The first thing to do is to clean up the old frame and rid it of all the old sealant. Avoid using sharp scrapers as these can damage the aluminium.

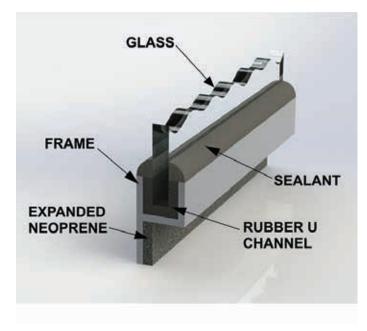
The frame is normally made up from sections. At each joint remove the screws that hold the joining strip in place. Carefully tap a thin flat scraper blade, or similar into the joint, taking care not to damage the frame. Repeat this on each joint gradually opening up the frame until it is separated. Remove the seal and window.

Due to the marine environment it is advisable to soak all items in a bath of fresh water for a couple of hours. This will help loosen and dissolve any residue salt deposits. After the parts are dry more cleaning may be required on the frame.

The next job is to check the condition of the window and seal. Most windows nowadays are made from Perspex. This is an excellent material but does deteriorate over a long period of time. If you wish to replace it, draw around it onto brown paper and send it to us for a quotation. It is a false economy to use an old seal and it is always advisable to replace it. To determine the correct size of seal you require, three main dimensions are needed.

- 1. Glass / Perspex thickness
- 2. Internal width of aluminium channel
- 3. Internal depth of aluminium channel

To match your required rubber 'U' channel to the available sizes firstly measure the glass/Perspex, then check the table of available sections to suit this in our catalogue or on our website. Next check the 'U' channel's wall thickness and add twice this to the glass/Perspex size. This will give you the overall rubber width to ensure that it fits into your aluminium channel. Be aware that the 70°sh EPDM rubber 'U' channel will not compress significantly. If you are unable to locate the exact size in our catalogue, you can either modify one of our existing seals, or contact us with your requirements and we will try and source it for you. Many seals used in old windows are no longer available and modern day equivalents have to be used.



#### Rubber 'U' channel

Cut the new seal to length (slightly oversize to prevent it shrinking back over time) and do a dry fit assembly to ensure that everything fits together OK. Dismantle and then apply a small bead of marine grade high modulus silicone sealant inside the rubber. Place the seal around the glass / Perspex. Now apply a small bead of silicone sealant into the bottom of the aluminium frame. Carefully place the window and seal into the frame and pull all bits together until they are in the correct position. (You may require the use of clamps to pull the frame together). Now replace the screws into the joining strips.

To ensure that you have a watertight window it is advisable to apply a fillet of silicone around the top edge of the seal and frame. Mask off the frame and the window leaving about a 6mm gap. Apply the silicone and then smooth it off using a blunt instrument or wet finger. Carefully remove the masking tape whilst the silicone is wet.

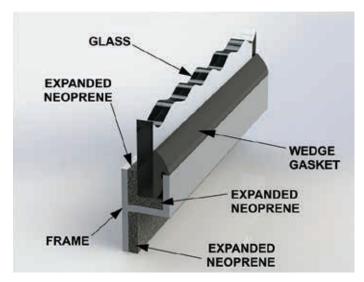
#### **Refurbishing Aluminium window frames continued**

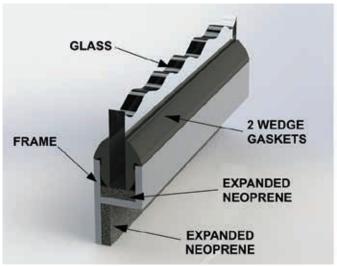
#### **Using Wedge Seals and Gaskets**

At the bottom of the aluminium channel run a strip of expanded neoprene so that the glass/Perspex has a soft cushion to sit on. Apply a small bead of silicone sealant onto the face of the expanded neoprene and assemble the frame around the glass / Perspex ensuring that it is sitting centrally. Depending on the size of the frame you can either have a wedge gasket on one side with expanded neoprene on the other, or a wedge gasket on both sides.

If using the expanded neoprene a 30% compression should be allowed for. i.e. The glass / Perspex + the neoprene + the wedge seal total should be 30% bigger than the internal channel width.

When refitting the completed window into the boat you will require a seal to go between the frame and the cabin side. The best material to use is a closed cell expanded neoprene, about 3mm thick and slightly wider than the flange. (This can be trimmed off when the window is fully fitted). Apply this to the frame and pre drill the bolt holes. Just before fitting the window to the boat smear a small amount of silicone sealant onto the top face of the seal. This will accommodate any minor imperfections and stop any leaks. Fit the screws and tighten up to achieve a 30% compression on the seal. Carefully trim the expanded neoprene around the edge of the frame using a sharp knife, and wipe away any excess sealant.



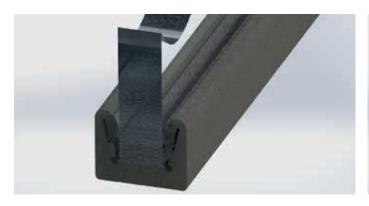


#### **Sliding windows**

Over a period of time the seals in sliding windows tend to wear and deteriorate. Old windows used to use either a felt or webbing material, but these have now been replaced with a flock (velvet) covered rubber. There are two main types: a preformed 'U' shape, or a flat strip that bends to fit inside a channel.

Dismantle and clean the windows as above. Measure your frame and glass / Perspex to determine the correct size of seal. You may have to modify one of the seals to fit the channel correctly. (For example put a strip of neoprene under it or to one side to increase its height or width).

The key dimensions are the width of the glass / Perspex and the internal width of the channel.





# Replacing a Caravan and Motorhome opening Window Rubber Determining the size of rubber required

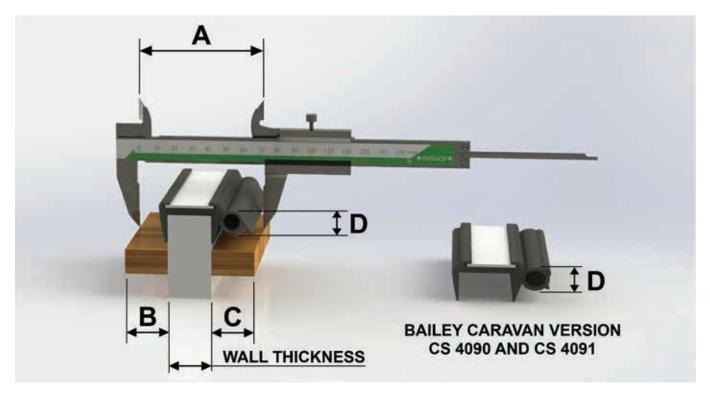
To determine the correct seal for your caravan or motorhome, you will first have to take a couple of measurements.

The panel (wall) thickness of the van which will either be 25mm, 27mm, 30mm, 35mm or 40mm and the diameter of the sealing bulb.

An easy way to measure the wall is as follows:

Take two pieces of wood of known thickness. Put one on the outside of the van just under the seal and the other on the inside of the van just under the seal. Take a measurement from the outside of one piece of wood to the outside of the other piece of wood. Subtract the thickness of the two pieces of wood from the overall measurement and this will give you the wall thickness of the van.

For example and referring to the diagram below the overall measurement A is 77mm. The wood thickness B is 25mm and thickness C is 25mm. Therefore the wall thickness is A minus B minus C = 27mm.



### Removing your old rubber and preparing for fitting new rubber

The first job to do is to open the window. Make a careful note of how the small hinge for the window stay is fitted and which way up etc. Take a screwdriver and undo the fixings for the two window props on the caravan so that they hang loose. The window can either be removed or propped up out of the way.

Noting the way the fittings go, remove them and keep them safe with their screws. Locate the end of the white/grey plastic strip and pull out. Next remove all of the staples holding the rubber to the wall of the caravan. Find the end of the rubber and carefully pull the seal away from the caravan.

Go around the window opening with a chisel or a flat bladed screwdriver and scrape away all of the sealant that is left. It will probably look like putty but not sticky. Be careful when removing it from the outside metal/plastic panelling of the caravan; just remove as much as you can, then use white spirit to remove the remainder. Meths or Acetone should then be used to clean off the oil film left by the white spirit.

#### Fitting the new rubber

The new rubber comes complete with the butyl mastic already applied inside it. Carefully push the rubber onto the wall of the caravan. Trim the rubber to the correct length ensuring that the ends are fitted tightly together. Staple the seal in place.

#### Fitting the plastic cover strip

Now fit the grey or white plastic cover strip into the top of the window rubber. The easiest way to do this is to use our cover strip fitting tool (order code CST 4335) with silicone spray (order code SS 4363) as a lubricant. Please refer to the fitting instructions below:



Please refer to our YouTube video below for more detailed fitting information:-

https://www.youtube.com/watch?v=5kthfMx2IFA

#### **Final assembly**

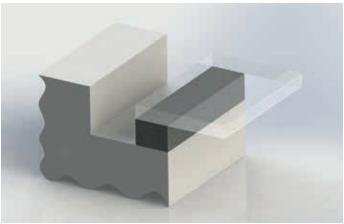
Next refit all the window fittings and stays.

- Lubricate the inside of the window rubber cover strip channel with silicone spray
- Insert the tool into the channel ensuring that the two legs at the back of the tool are securely inside the channel lips
- Insert the grey or white cover strip through the centre of the tool and push the end back into the rubber under the lips
- Gently move the tool forward to lay the cover strip into the rubber
- Continue all the way around the window finally overlapping the end part of the strip over the beginning part of the strip

#### **Locker and Hatch seals**

Listed are four alternative designs, which in the majority of cases provide watertight seals. Please bear in mind the following factors when choosing the design which best suits your application:

- A. Trueness of hatch to aperture and deck.
- B. Sealing surface e.g. Knife edge or flat.
- C. Size of seal which is usually stipulated by size of gap. (The seal can often be modified or tapered to allow for any inconsistency in the gap).
- D. Seal should compress by approximately 30% to provide a watertight seal. (This also helps prevent the seal from being over compressed and damaged).
- E. The weight of the hatch and the number of fixings holding down the hatch. (The heavier it is, or the greater the number of fixings there are, then the larger the seal can be).



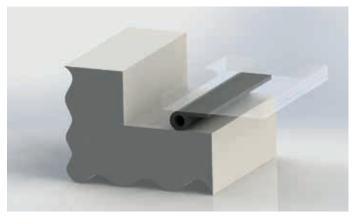
Type 1

Expanded neoprene (closed cell i.e. does not absorb or transmit water).



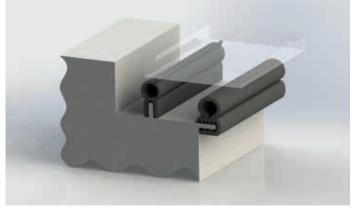
'P' Section, order code P 42

'B' Section, order code RFB 103



Type 3

'P' Section or "tadpole" section.



Type 4

Clip on edge trim side or top seal.

The seal can also be fitted onto the hatch or locker lid.

#### **Fitting Fenders**



#### 'D' Fenders

Feed the fixing bar through the centre of the 'D'.

Line up the fender with the side of the boat and with a lubricated drill bit, drill through the top face of the 'D', fixing strip and gunnel.

Using self-tapping screws or bolts fasten the fender to the boat. Repeat every 150 - 200mm.

To plug the drill holes, cut enough plugging cord to touch the screw / bolt heads and secure in place with a polyurethane adhesive. Once the adhesive has set, trim the plug so that it is flush with the top of the fender.



#### 'U' Fenders

This type of fender normally locates on to a flange protruding from the side of the boat.

If you have a PVC fender it is recommended that you soften it first in boiling water.

Fasten the end of the fender at the transom by using selftapping screws or rivets through the underneath of the profile and into the flange.



#### **Rigid PVC Fenders and Aluminium Fenders**

This fender is normally supplied in lengths approximately 3.65 metres long.

With the end approximately 1.8 metres from the bow, line up the fender with the gunnel. Drill and secure with self-tapping screws or rivets every 225 - 300mm.

Pull the fender around the bow fastening as you go. Butt up the next length and fasten in the same manner. For tight bends it is advisable to put some wire in the corners of the internal grooves to prevent the fender collapsing and hindering the fitting of the insert.



### Easy fit 'D' Fenders

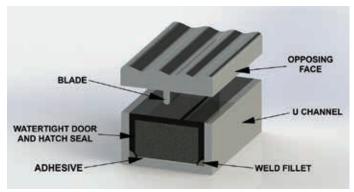
This fender is designed for simple installation with all the fixings hidden but still offers a high level of performance.

Firstly drill holes through the track and secure it against the side of the boat with self-tapping screws.

Locate one edge of the fender over one ledge of the track and then stretch the other edge of the fender over the other ledge of the track.

### **Installation instructions for Watertight Door and Hatch Seals**

This document details a typical installation for watertight door and hatch seals. These seals are very robust and therefore designed for large heavy doors and hatches.





#### **Door open**

The 'U' channel with seal can either be fitted to the door / hatch or the surrounding frame. The 'U' channel is typically manufactured by welding sheets of metal together to form the 'U'. As you will see the corners of the seal may contain chamfers (depending on size) to allow for the weld fillets. The seal should be bonded into the 'U' channel with a suitable adhesive such as our order codes S 136 or A 262. Take care if using a contact adhesive such as our order code A 262 that you only apply the adhesive in the bottom of the 'U' channel as shown in the diagram opposite.

#### **Door closed**

The opposing face should be fitted with a round ended blade which will insert into the seal as the door / hatch closes. Typical compression of the seal should be between 3mm and 5mm although this can be varied by experimentation should the need arise. Take care not to over compress the seal as this will damage it.

#### How to provide details of your seal

If you need help with identifying a seal in our range that meets your requirements then the easiest way for us to help you is to either send us a sample in the post or email us a photograph of the end profile of your seal. Below are our requirements to enable us to easily identify your seal:

#### Send us a sample in the post

Please cut off a small slither from your existing seal. The sample needs to allow us to look at the end profile clearly. Also include material type and hardness.



Please note when sending it through the post to take your package to the Post Office counter to ensure the package has the correct amount of postage as many samples are either delayed or do not arrive at all due to incorrect postage.

### **Email us a photograph**

Below are a few tips on how to provide us clear information of your existing seal:

1. The view of your seal that we need is the end profile not the side of the seal. Please refer to the examples below:



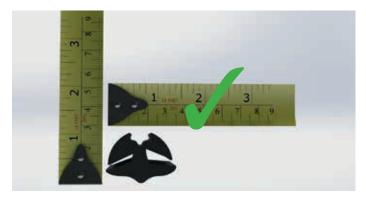


2. The end of the seal must be in focus and not necessarily the background. Please refer to the examples below:





3. Take the photograph of the seal with a measuring device such as a tape measure or rule. Or if not feasible then provide a couple of basic dimensions in your email so that we can scale the size of the seal. Ensure that the measuring device is correctly aligned with the seal in the photograph so that we can clearly see the overall dimensions. Please refer to the examples below:





#### **Using Adhesives**

When gluing rubber it is advised that you abrade it's surface with sand paper and then degrease it with a solvent. E.g. IPA, Acetone, MEK, Toluene or Meths. Do not use anything oil based such as White Spirit. We can supply IPA wipes our order code CW 3936. Ensure that the other surface that you are sticking to is dry, free of dust and grease free.

#### **Contact Adhesives**

The following is a guide to using a contact adhesive. It is best to apply one coat of adhesive to each surface and allow it to fully dry. Then apply a second coat to each surface and when touch dry press the two parts together. Please note that contact adhesives do not allow for positioning after the two surfaces are brought together. The following is guide to coverage for the two types we sell:

#### Thixofix our order code A 139

One 40cc tube covers an area approximately 0.12 square metres. The following is some examples of coverage:

6 metres of rubber strip 20mm wide would require one tube 6 metres of rubber strip 40mm wide would require two tubes

#### Waterproof contact adhesive our order code A 262

One 1/4 litre tin covers an area approximately 0.5 square metres.

#### Silicone and Polyurethane Sealants

If using a silicone or polyurethane sealant, apply plenty to the joint/surface and then smooth off with a wet finger or scraper. Allow at least 24 hours to cure. The following is a guide to coverage for the silicone sealants our order codes S 137 & S 138 and polyurethane adhesive our order code S 136:

| JOINT SIZE                | METRES PER 310ML CARTRIDGE |
|---------------------------|----------------------------|
| 3 X 5MM (15 SQUARE MM)    | 20.7                       |
| 5 X 5MM (25 SQUARE MM)    | 12.4                       |
| 10 X 5MM (50 SQUARE MM)   | 6.2                        |
| 10 X 10MM (100 SQUARE MM) | 3.1                        |
| 15 X 10MM (150 SQUARE MM) | 2.1                        |
| 20 X 10MM (200 SQUARE MM) | 1.6                        |
| 25 X 10MM (250 SQUARE MM) | 1.2                        |

Please note that the above figures are theoretical only.

### **Guide for dimension tolerances on drawings**

Below is a table detailing the tolerances of dimensions on our drawings. The tolerances are specified in British Standards BS 3734 and International Standards Organisation ISO 3302-1 for rubber products. In the TOLERANCE box on the drawing (please refer to our website) it will state a class code, either E1, E2 or E3.

| TOLERANCES                        |                   |                |              |              |  |  |
|-----------------------------------|-------------------|----------------|--------------|--------------|--|--|
| NOMINAL                           | DIMENSION         | CLASS          |              |              |  |  |
| ABOVE                             | UP TO & INCLUDING | <b>E1</b><br>± | E2<br>+<br>- | E3<br>+<br>- |  |  |
| 0.00                              | 2.50              | 0.20           | 0.35         | 0.50         |  |  |
| 2.50                              | 4.00              | 0.25           | 0.40         | 0.70         |  |  |
| 4.00                              | 6.30              | 0.35           | 0.50         | 0.80         |  |  |
| 6.30                              | 10.00             | 0.40           | 0.70         | 1.00         |  |  |
| 10.00                             | 16.00             | 0.50           | 0.80         | 1.30         |  |  |
| 16.00                             | 25.00             | 0.70           | 1.00         | 1.60         |  |  |
| 25.00                             | 40.00             | 0.80           | 1.30         | 2.00         |  |  |
| 40.00                             | 63.00             | 1.00           | 1.60         | 2.50         |  |  |
| 63.00                             | 100.00            | 1.30           | 2.00         | 3.20         |  |  |
| ALL DIMENSIONS ARE IN MILLIMETRES |                   |                |              |              |  |  |
|                                   |                   |                |              |              |  |  |

#### How to measure a corner radius

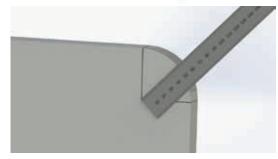
This document explains what a corner radius is and provides two methods to determine the size of your radius so that you can decide if our seals will fit around your corner. Depending on which method you opt for you may need one of the following Items:

Drinking glasses, Coffee mugs Saucers, Plates Paint tins, Tape reels Any other circular items

A corner radius is the curved part of an edge that links the straight edges together.

Please refer to the diagram opposite:





Black lines are for reference purposes

There are two options for determining the corner radius:

- 1. You can pencil in 2 lines as shown in the diagram above and measure the distance from the point where the two lines meet to any part of the radius.
- 2. Place a circular item up in the corner of the place where you want the seal to fit around. The diagrams below show the correct size of item for calculating the corner radius and also shows incorrect size items:



Item is too small



Item is too big



**Correct item size** 

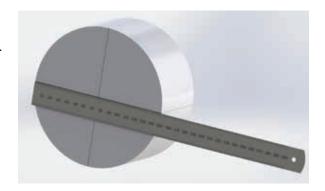
It's important that you choose the correct size of item to ensure you obtain an accurate measurement of your corner radius.

This may involve trying many circular items until you get the right size.

Once you have found the item that fits your corner radius the best, then you need to measure the diameter of the item as shown in the diagram opposite:

Once you have this measurement you need to divide the figure by 2 and that will give you your corner radius.

For example, if your item (plate, mug, glass etc.) measures 150mm diameter (across the item) then you divide this by 2 and the corner radius is 75mm.





The purpose of this table is to provide some general information on material properties for the majority of the components listed in the catalogue.

Located underneath the order code for each product is a material code which you can cross-reference in the table and find out some basic physical properties.

Please note that an individual material code may cover a range of different products, however, although they may be manufactured from the same generic type of material there may be variations in the properties which is why a range is sometimes specified for some of the properties.

It must be noted that this information is provided for guidance purposes only and therefore to ensure suitability of the product in your application you would need to carry out your own investigation or tests.

For more detailed technical information on a specific item please either go to our website and click on the PDF button or give us a call.

| MATERIAL<br>CODE | MATERIAL<br>DESCRIPTION                                  | HARDNESS/SG<br>RANGE | TENSILE<br>STRENGTH | COMPRESSION<br>SET |
|------------------|--|----------------------|---------------------|--------------------|
| AC/PET           | MODIFIED ACRYLIC   | -                    | GOOD                | GOOD               |
| ALU              | ALUMINIUM  | 60°ROCKWELL B        | 310MPA              | -                  |
| BUTYL            | BUTYL MASTIC   | 1.5-1.6 SG           | -                   | -                  |
| САВ              | CELLULOSE ACETATE BUTYRATE                               | 78°ROCKWELL R        | ЗЗМРА               | -                  |
| CR               | NEOPRENE RUBBER  | 40° TO 80° SHORE A   | 5MPA                | 20-35%             |
| CYANO            | CYANOACRYLATE  | 85° SHORE A          | 20MPA               | -                  |
| EPDM             | SYNTHETIC RUBBER   | 50° TO 80° SHORE A   | 5-11MPA             | 20-40%             |
| EXP CR           | EXPANDED NEOPRENE RUBBER                                 | 0.13 SG              | 500KPA              | 25%                |
| EXP CR/EPDM      | EXPANDED NEOPRENE<br>/SYNTHETIC RUBBER<br>COMPOUND       | 0.13 SG              | 300KPA              | 25%                |
| EXP EPDM         | EXPANDED<br>SYNTHETIC RUBBER                             | 0.5-0.9 SG           | -                   | 2.5-50%            |
| EXP NR           | EXPANDED NATURAL RUBBER                                  | 0.42 SG              | 295KPA              | 15%                |
| EXP SIL          | EXPANDED SILICONE<br>RUBBER                              | 0.256 SG             | 1.2N/MM             | 10%                |
| NBR              | NITRILE RUBBER   | 40° TO 100° SHORE A  | GOOD                | GOOD               |
| NBR/CR           | NITRILE/NEOPRENE<br>RUBBER COMPOUND                      | -                    | -                   | -                  |
| NBR/PVC          | NITRILE/PVC<br>COMPOUND                                  | 65° SHORE A          | ЗМРА                | -                  |
| NR               | NATURAL RUBBER   | 35° TO 70° SHORE A   | 4-16MPA             | 15-35%             |
| NR/SBR           | NATURAL<br>STYRENE-BUTADIENE<br>RUBBER COMPOUND          | 60° TO 75° SHORE     | 2.5-3MPA            | -                  |
| РВ               | LEAD   | 5° VICKERS           | 18MPA               | -                  |
| PE/PP/EXP PU     | POLYETHYLENE/<br>POLYPROPYLENE<br>/EXPANDED POLYURETHANE | -                    | -                   | -                  |
| PET              | POLYESTER  | 100° SHORE A         | 100MPA              | -                  |
| РОМ              | ACETYL   | 85° SHORE D          | 65MPA               | -                  |
| PP               | POLYPROPYLENE  | 0.91 SG              | 27MPA               | -                  |
| PU               | POLYURETHANE   | 48° TO 85° SHORE A   | 35MPA               | 45%                |
| PVC              | POLYVINYL CHLORIDE PLASTIC                               | 60° TO 95° SHORE A   | 5-39MPA             | 40%                |
| SIL              | SILICONE RUBBER  | 20° TO 75° SHORE A   | 0.5-11MPA           | 13-40%             |
| SS               | STAINLESS STEEL  | 95° ROCKWELL B       | 515MPA              | -                  |
| TPE              | THERMOPLASTIC ELASTOMER                                  | 43° SHORE A          | 6.6MPA              | 34%                |
| TPR              | THERMOPLASTIC<br>RUBBER                                  | 61° SHORE A          | 6.2MPA              | 59%                |
| TPS-SBS/SEBS     | PLASTIC POLYMER  | 55° SHORE A          | 2.8MPA              | 36%                |

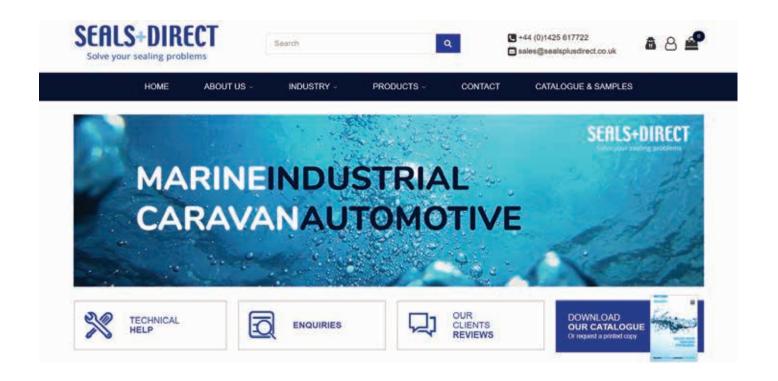
| COLOURS                   | OIL<br>RESISTANCE | FUEL<br>RESISTANCE | WATER<br>RESISTANCE | TEMPERATURE<br>RANGE |
|---------------------------|-------------------|--------------------|---------------------|----------------------|
| BLACK                     | GOOD              | GOOD               | GOOD                | -20°C TO +80°C       |
| -                         | EXCELLENT         | EXCELLENT          | EXCELLENT           | -                    |
| WHITE                     | POOR              | POOR               | EXCELLENT           | -20°C TO +80°C       |
| NATURAL/CLEAR             | GOOD              | FAIR               | EXCELLENT           | -40°C TO +75°C       |
| BLACK                     | GOOD              | FAIR               | GOOD                | -20°C TO +90°C       |
| TRANSLUCENT               | FAIR TO GOOD      | FAIR TO GOOD       | FAIR                | -50°C TO +80°C       |
| BLACK                     | POOR              | POOR               | EXCELLENT           | -40°C TO +120°C      |
| BLACK                     | GOOD              | GOOD               | EXCELLENT           | -40°C TO +115°C      |
| BLACK                     | POOR              | POOR               | EXCELLENT           | -30°C TO +90°C       |
| BLACK                     | POOR              | POOR               | EXCELLENT           | -20°C TO +120°C      |
| BLACK                     | POOR              | POOR               | GOOD                | -40°C TO +70°C       |
| WHITE                     | POOR              | POOR               | EXCELLENT           | -50°C TO +200°C      |
| BLACK                     | GOOD TO EXCELLENT | FAIR               | GOOD                | -20°C TO +125°C      |
| BLACK                     | EXCELLENT         | EXCELLENT          | EXCELLENT           | -20°C TO +100°C      |
| VARIOUS                   | EXCELLENT         | EXCELLENT          | EXCELLENT           | -                    |
| WHITE/BLACK               | POOR              | POOR               | GOOD                | -20°C TO +70°C       |
| BLACK                     | POOR              | POOR               | EXCELLENT           | -20°C TO +70°C       |
| BLACK                     | -                 | -                  | -                   | -                    |
| WHITE/BROWN               | -                 | -                  | -                   | -40°C TO +70°C       |
| BLACK                     | EXCELLENT         | EXCELLENT          | EXCELLENT           | -50°C TO +120°C      |
| BLACK                     | GOOD              | EXCELLENT          | EXCELLENT           | -20°C TO +100°C      |
| WHITE/BROWN/BLACK         | EXCELLENT         | GOOD               | EXCELLENT           | 0°C TO +90°C         |
| BLACK/TRANSLUCENT         | POOR TO FAIR      | GOOD TO EXCELLENT  | EXCELLENT           | -40°C TO +90°C       |
| VARIOUS                   | GOOD              | EXCELLENT          | EXCELLENT           | -5°C TO +60°C        |
| WHITE/BLACK<br>TANSLUCENT | FAIR TO EXCELLENT | POOR               | GOOD                | -50°C TO +200°C      |
| -                         | EXCELLENT         | EXCELLENT          | EXCELLENT           | -                    |
| WHITE/BROWN/BLACK         | GOOD              | GOOD               | EXCELLENT           | -40°C TO +120°C      |
| WHITE/BROWN/BLACK         | GOOD              | GOOD               | EXCELLENT           | -40°C TO +120°C      |
| BLACK                     | GOOD              | GOOD               | EXCELLENT           | -50°C TO +75°C       |

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