

# SYSTEM 2

# January 2015





# An Irish Owned Company manufacturing in Ireland since 1988 Proudly supporting Irish Jobs

Mi-Flues Units 5&6 Enterprise Centre, Summerhill, Co.Meath Ireland Tel: +353 46 9558030 Fax: +353 469558034 Website: www.miflues.ie Email: sales@miflues.ie

# Introduction

Mi-Flues System 2 is a factory made twin wall insulated stainless steel chimney system.

It is suitable for use on solid fuel, biomass, oil and gas applications. Mi-Flues System 2 must be connected to the connecting flue pipe and not to the appliance itself. For all appliances please refer to the Manufacturers installation instructions.

Mi-Flues System 2 should be installed in accordance with Building Regulations.

# **Product Description**

Mi-Flues System 2 is manufactured from three distinct materials. The combination of the three, yields a product with a high thermal resistance due to the materials used.

The design, having almost no thermal bridging between the chimney liner and body, ensures a quick stabilization of flue gas temperatures and the existence of a strong draught. It is constructed from concentric cylinders commonly referred to as the chimney liner and body.

The body is made from 304 grade stainless steel which carries the structural load. It has a bright polished finish and is weather proof due to its high quality continuously seam welded finish.

System 2 is also available as standard in a black finish in 125mm and 150mm diameters (larger diameters are available on request—please contact Mi-Flues for details). The liner of the flue is made from 316L grade stainless steel and is designed to automatically cope with the thermal elongation due to changes in temperature.

It also offers excellent resistance against corrosion due to its molybdenum alloy content. The chimney is insulated with a densely packed insulation which results in a low heat conductivity to the walls of the chimney.

# **Approvals**

Mi-Flues System 2 is manufactured and conforms to EN 1856-1 and is tested to the requirements of : EN1859 to the performance designation below:

EN 1856-1 T450 N1 D Vm L50040 G60

# **Components**

Mi-Flues offers a wide range of prefabricated components allowing complete flexibility to meet today's demanding applications.

The system comprises of straight lengths, adjustable lengths, bends, tees and a wide range of accessories.

Assembly instructions for all components which are supplied unassembled are available in this brochure, on our packaging labels and/or through our website. \*Where **'Int Dia'** is shown throughout in tables this refers to the Internal Diameter of the chimney. \*Where **'Ext Dia'** is shown throughout in tables this refers to the External Diameter of the chimney.

# Application

Mi-Flues System 2 is ideal for installation in residential, commercial or industrial heating applications. It is quick and easy to install.

System 2 listed products can be installed internally or externally as an independent chimney system (see pages 17 for illustrations). Installation should always be in accordance with Building Regulations Documents J 2014 and Document B 2006.

The products listed in this brochure are not suitable for condensing applications. For further information please contact Mi-Flues Technical Department.

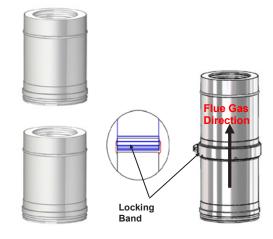
# **Joint Assembly**

Mi-Flues System 2 chimney products incorporate a unique jointing system. To join System 2 components simply push the components in question firmly together ensuring the product label flue gas directional arrow points upwards.

To secure, tighten the nut and bolt on the locking band (taking care to note the directional arrow on it) as shown on the illustration below. Each component comes with a locking band where required. The cutting of elements is prohibited as it will remove the unique jointing system.

# **Locking Band**

The unique jointing system, along with the locking band system, both strengthen the joints and ensures the excellent gas tight properties of the chimney. Care must be taken to install the locking band as per its directional arrow.

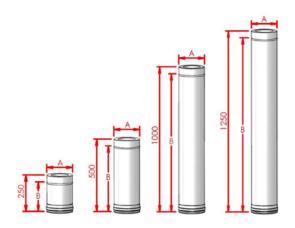


**Push Together** 

Secure Joint

# Lengths

Product Code: 2-D-Length Product Code: 2-D-Length-B (for Black) Replace 'D' above with required Internal diameter and specify length: 1250mm, 1000mm, 500mm or 250mm.



Lengths come in six standard diameters 80mm, 100mm, 125mm, 150mm, 180mm and 200mm. To confirm the working length please refer to the chart below. Always install the chimney as pointed out by the directional arrows attached to the main chimney body.



Int. Dia.	80	100	125	150	180	200
Ext. Dia. (A)	125	150	180	200	225	250
B 1250	1196	1196	1196	1196	-	-
B 1000	946	946	946	946	946	946
B 500	446	446	446	446	446	446
B 250	196	196	196	196	196	196

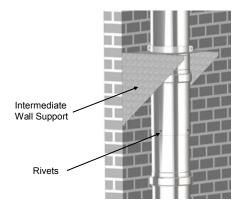
## Adjustable Length Product Code: 2-D-ADJ Product Code: 2-D-ADJ-B (for Black) Replace 'D' above with required Internal Diameter

This component is designed to provide onsite adjustment and is used where accurate linear movements are required.

This is a non load bearing telescopic pipe and at its full extension must have a telescopic overlap of at least 80mm. A wall support must be used on the component directly above the adjustable length to support the chimney run.

Four by equidistant holes must be drilled on the telescopic body to allow for fitting 5mm stainless steel rivets/ self tappers (rivets and self tappers not supplied by Mi-Flues.).





Int. Dia.	80	100	125	150	180	200
Ext.Dia. (A)	125	150	180	200	225	250
B Max.	490	490	490	490	490	490
B Min.	340	340	340	340	340	340

# 45° Bend Product Code: 2-D-45 Product Code: 2-D-45-B (for Black) Replace 'D' above with required Internal diameter

A  $45^{\circ}$  bend is used to create a change in direction in a flue run. This component is developed in two segments. They are usually used in pairs, the first to create the offset and the second to turn the chimney to its original vertical position. Two by  $45^{\circ}$ bends can be used to create a  $90^{\circ}$  bend.



Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
Α	125	150	180	200	225	250
В	138	142	155	162	182	191
С	100	109	115	115	126	131
D	57	60	67	75	78	84
E	42	43	45	54	55	59

# 90° Bend Product Code: 2-D-90 Product Code: 2-D-90-B (in Black) Replace 'D' above with required Internal diameter

A 90° bend is used to create a change in direction in a flue run and is developed in three segments. It may be taken as being equal to two 45° bends.



Int. Dia	80	100	125	150
Ext. Dia (A)	125	150	180	200
Α	125	150	180	200
В	110	115	140	148
с	150	164	187	205

# 45° Tee Product Code: 2-D-45T Product Code: 2-D-45T-B (for Black) Replace 'D' above with required Internal diameter

A 45° Tee is used to create a bend in a flue run. This component minimises the resistance to flow because of the angle created with the vertical axis. This component comes complete with a removable inspection cap. Mi-Flues can also provide a tee cap with drain plug request (shown on opposite).



Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
Α	312	320	380	391	440	452
В	227	260	312	329	362	375
С	181	213	255	284	309	334
D	20	20	20	20	20	20

# 90° Tee

Product Code: 2-D-90T Product Code: 2-D-90T-B (for Black) Replace 'D' above with required Internal diameter

A 90° Tee is used to create a bend in a flue run. It is used to change a chimney run from a horizontal run to a vertical run. This component comes complete with a removable inspection cap.



Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
Α	260	260	286	306	347	363
В	108	107	121	131	152	160
с	38	32	44	44	34	37
D	20	20	20	20	20	20

Tee Cap with drain or without drain Product Code: 2-D-TCD (with drain) Product Code: 2-D-TC (without drain) Replace 'D' above with required Internal diameter





Without drain

A Tee cap is used to close off a tee. It provides access for inspection and cleaning. A Tee cap with a drain is used at the bottom of a vertical chimney to facilitate drainage from the system.

Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
A	80	100	125	150	180	200
В	20	20	20	20	20	20

# **ADAPTORS**

It is important that the adaptor you choose is in accordance with the local Building Regulations and appliance manufactures instructions.

# Start Off Adaptor

Product Code: 2-D-ADP Product Code: 2-D-ADP-B (for Black) Replace D above with required Internal diameter

An adaptor is used to join a single wall connecting flue pipe to a twin wall system.



Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
A (before Crimp)	80	100	125	150	180	200
В	157	157	157	157	157	157
С	82	82	82	82	82	82
D	125	150	180	200	225	250

# Start Off Adaptor—Tapered Product Code: 2-D-ADPT Product Code: 2-D-ADPT-B (for Black) Replace 'D' with required Internal diameter

A tapered adaptor is used to join a single wall connecting flue pipe to a twin wall system providing a more asthetic finish due to the external tapered section below the ceiling level.



Int Dia	80	100	125	150	180	200
Ext Dia	125	150	180	200	225	250
Α	80	100	125	150	180	200
В	125	150	180	200	225	250
С	240	240	240	240	240	240

Start Off Adaptor—Tapered Reducing Product Code: 2-D-ADPRT (Reducing) Product Code: 2-D-ADPRT-B (for Black) Replace 'D' with required Internal diameter

A reducing tapered adaptor is used to join a single wall connecting flue pipe to a twin wall system providing a more asthetic finish due to the external tapered section below the ceiling level.



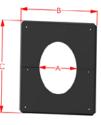
Int Dia	100	125	150	180	200
Ext Dia	150	180	200	225	250
Α	80	100	125	150	180
В	150	180	200	225	250
С	240	240	240	240	240

## 45° Rosette Plates (Black) Product Code: 2-D-RP45-S-B Replace 'D' above with Internal diameter of pipe passing through it

The Rosette plate is used for aesthetic purposes to improve the finish of a flue as it penetrates a wall. They are available in a split format for retro fitting. Rosette plates are available to suit 45° angles. Each rosette plate comes individually packaged for ease of handling and storage.

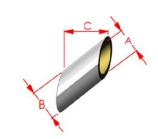
The pack contains two half plates along with six wall plugs and six screws. These are used to secure the plates around the chimney; two at the top, two in the middle and two at the bottom.

Int Dia	125	150
Ext Dia	180	200
Α	183	204
В	373	384
С	448	468



## **45° Insulated Sleeve Product Code: 2-D-IS45** Replace 'D' above with Internal diameter of pipe passing through it

An insulated sleeve is used to pass a flue through an external wall thus providing a continuous uninterrupted run through a wall. It is designed to suit a maximum wall thickness of 300mm.



Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
Α	125	150	180	200	225	250
В	192	221	247	273	303	327
C (Wall Thickness)	300	300	300	300	300	300

Terminal—Finishing Cone Product Code: 2-D-FC Product Code: 2-D-FC-B (for Black) Replace 'D' above with required Internal diameter



A Finishing Cone offers the least resistance to flue gases and is ideal for use on solid fuel appliances where there is drainage at the base of the chimney. The chimney remains open at the top but the cone ensures the insulation in the final flue length is sealed.

Int Dia	80	100	125	150	180	200
Ext Dia	125	150	180	200	225	250
Α	80	100	125	150	180	200
В	125	150	180	200	225	250
С	228	228	228	228	228	228

Terminal—Cowl (Rain Cap) Product Codes: 2-D-CLC (Standard cowl- Rain Cap) 2-D-CLC-B (for Black) 2-D-CLCBG-SF (c/w Bird Guard for Solid Fuel) 2-D-CLCBG-SF-B (for Black) 2-D-CLCBG-G ( c/w Bird Guard for Gas) Replace 'D' above with required Internal diameter



A cowl is the top rain cap for a chimney. Its purpose is to stop the infiltration of rain or snow to the inside of the chimney. It does not impede the movement of the products of combustion. It is fitted onto the last length of the installation and secured with a locking band. (This cowl is also available for gas installations with the addition of an appropriate gas mesh, as shown above).

Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
Α	125	150	180	200	225	250
В	82	82	82	82	82	82

TERMINAL- H Cowl Product Code: 2-D-HCL Replace 'D' above with required Internal diameter



A H cowl is used to reduce the possibility of down draught problems occurring. It is fitted onto the last length of the installation and secured with a locking band.

Int Dia	80	100	125	150	180	200
Ext Dia	125	150	180	200	225	250
Α	592	592	751	751	795	900
В	350	350	457	457	490	560

#### Storm Cowl Product Code: 2-D-SCL Replace 'D' above with required Internal diameter

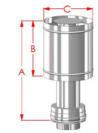


A storm cowl is a rain cap which is used in exposed areas subject to high wind conditions. It reduces the possibility of the wind affecting the appliance. This cowl is popular for use with wood pellet and wood chip applications.

Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
Α	245	245	245	245	245	245
В	155	155	155	155	155	155
С	250	272	295	320	347	370

# Anti Downdraught Cowl Product Code: 2-D-ADD

Replace 'D' above with required Internal diameter



An Anti Down draught cowl is used to reduce the possibility of a down draught problem occurring. It is fitted onto the last length of the installation and secured with a locking band.

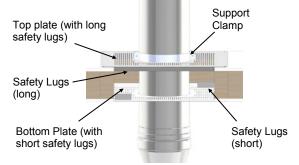
Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
Α	529	529	545	564	764	919
В	250	250	250	305	356	405
С	185	205	230	276	322	369

Support Components and assembly instructions

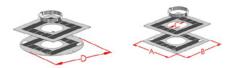
**Pitched Roof Firestop Installation Instructions** 

#### **Firestop**

Product Code: 2-D-FS (Square) Product Code: 2-D-FS-B (for Black-Square) Product Code: 2-D-FS-R (Round) Product Code: 2-D-FS-R-B (for Black-Round) Replace 'D' with required Internal diameter



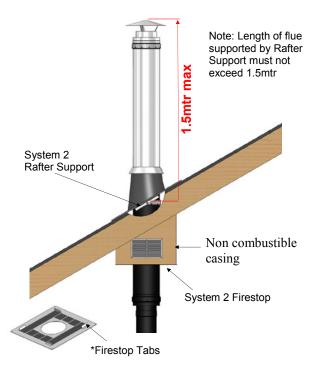
A Firestop is used where a chimney penetrates a ceiling or joist area. Its purpose is to provide resistance to fire spread between rooms or compartments. It consists of two stainless steel plates and a support clamp. The Firestop centralises the chimney and maintains an 60mm gap to combustible materials. It also acts as a load bearing support member due to its support clamp. A round shaped bottom plate is also available (as shown).



Int.Dia	80	100	125	150	180	200
Ext Dia	125	150	180	200	225	250
Α	365	390	420	440	465	490
В	365	390	420	440	465	490
С	135	160	190	210	235	259
D	366	402	444	473	508	543

Each Firestop comes individually packaged complete with installation instructions shown on the packaging label. The contents of each box are as follows: 2x Firestop Plates, 1x Firestop Support Clamp Installation Instructions

Install Firestop as per above illustration ensuring that no combustible material passes the safety lugs and the required 60mm clearance distance. This will ensure the required 60mm clearance distance is achieved. The bottom firestop plate, shown above complete with short safety lugs, should be drilled and screwed to the ceiling joist. (Screws not included) The top firestop plate, shown above complete with long safety lugs, rests on the joist/floor and should be drilled and screwed to the floor. (Screws not included). When both firestop plates are in position the System 2 chimney components should be passed through the plates ensuring no joints occur within the joist/firestop plate area. Strap the firestop support clamp around the chimney body directly above the top firestop plate thereby transferring the weight to the top firestop plate.



Where a flue passes through a ceiling or roof of a sunroof as shown above, a firestop plate must be used to allow for ventilation to occur throughout the enclosed area and to ensure that the flue is centralised as it passes through the roof. The firestop plate is also used to maintain the 60mm clearance to combustible distance.

# Firestops are only suitable to be fixed in the horizontal plane position.

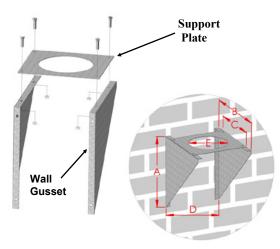
In the case where the ceiling / roof is at a pitched angle, a casing should be constructed from a non-combustible material to allow for the sturdy fixing of the firestop plate to the horizontal position. The structure should be sized to allow for two adequately sized vents to be positioned opposite each other , while also maintaining the 60mm clearance from the surface of the flue as dictated by the firestop tabs\*. Two sufficient sized holes should be formed in two opposing faces of the casing to allow for the flow of cool air through out the enclosed area. These holes should be closed off using non-combustible vents as shown. Ensuring the four firestop tabs are positioned inside the casing, the firestop plate should be screwed to the casing with fixings adequate for the purpose.

The casing and firestop plate keep the flue run centralised but do not offer any load bearing support. The flue must be supported where appropriate below the casing. A rafter support must be screwed to the top side of the rafter prior to the fitting of the flashing. The rafter support uses the strength of the rafters to stabilise the flue while also acting as a load bearing support. The length of flue supported by the rafter support should not exceed 1.5m. Care must also be taken to ensure that no joint between flue sections are enclosed within the casing.

Support Components and assembly instructions

# **Base Wall Support**

Product Code: 2-D-BWS Product Code: 2-D-BWS-B (for Black) Replace 'D' with required Internal diameter



Support Clamp Support Plate

Int Dia	80	100	125	150	180	200
Ext Dia	-	-	180	200	225	250
Α	-	-	347	347	347	347
В	-	-	347	347	347	347
С	-	-	222	222	322	322
D	-	-	272	272	322	322
E	-	-	137	162	195	222

#### Int. Dia 80 100 125 150 180 200 Ext. Dia 125 150 180 200 225 250 Α 347 347 347 347 347 347 в 347 347 347 347 347 347 С 222 222 248 272 322 322 D 272 272 272 272 322 322 Е 135 188 162 210 240 260

#### **Base Wall Support**

A base wall support should be used to support a tee section on a vertical run of chimney. It is bolted to a main frame or wall face using fixings adequate for the purpose (fixings not included). The minimum distance from the chimney body to wall face is 60mm. For maximum run of flue on a base wall support see section marked Supports (page 16). A base wall support should be used with a 90°Tee or 45° Tee. If the Base Wall Support cannot be used then an Intermediate Wall Support must be used on the length directly above the Tee.

Each Base Wall Support comes individually packaged complete with fitting instructions on the packaging label. Contents as follows:

2x Wall Gussets

1x Support Plate

4x M8 Nuts

4 x M8 x 30mm Bolts

To install base wall support, attach support plate to wall gussets as per above illustration.

To fit System 2 tee section, allow inner liner to pass through the hole in the support plate until body of the tee section rests on the plate. (See Illustration of External Twin Wall Flue application on page 17).

#### Intermediate Wall Support

An intermediate wall support is used as a weight support on a main run of chimney. It comes complete with a support clamp which is attached to the body of the chimney and is supported by the support plate. The Intermediate Wall Support is bolted to a main frame or wall face using fixings adequate for the purpose (fixings not included). The minimum distance from the chimney body to the wall face is 60mm. For maximum run of flue on an intermediate wall support see section marked 'Supports' (page 16).

Each Intermediate Wall Support comes individually packaged with installation instructions shown on the packaging label.

The contents are as follows: 2x Wall Gussets, 1x Support Plate 4x M8 x 30mm Bolt, 4 x M8 Nuts 1x Support Clamp

#### Installation Instructions

To install intermediate wall support, attach support plate to wall gussets as per above illustration, using fixings supplied. To fit the System 2 component, tighten support clamp onto chimney body in desired location. Pass component section through hole in support plate until clamp on chimney body section rests on support plate.

Support Components and assembly instructions

# Intermediate Wall Support Product Code: 2-D-IWS Product Code: 2-D-IWS-B (for Black)

Replace 'D' with required Internal diameter

#### Support Components and assembly instructions

# Adjustable Wall Bracket Product Code: 2-D-BRK Product Code: 2-D-BRK-B (for Black) Replace 'D' with required Internal diameter

A wall bracket provides lateral support to a chimney run. It is not a load bearing support and should be used at 1.5 meter intervals.

This component is adjustable between 60mm -250mm of a wall face.

A wall bracket is bolted to a main frame or wall face as per below illustration, using fixings adequate for the purpose (fixings not Included).

Each bracket comes individually packaged with the following included: Wall Section x 1 Joiner Section x 1 Clamping Section x 1 M6x25mm Hex Head Bolt x 2 M6x12mm Hex Head Bolt x 4 M6 Nut x 6



Joiner Section

Wall Section

	_				Clamping Section			
Int Dia	80	100	125	150	180	200		
Ext Dia	125	150	180	200	225	250		
А	125	150	180	200	225	250		
В	45	45	45	45	45	45		
С	258	258	258	258	258	258		
D	152	152	152	152	152	235		
E	20	20	30	30	30	30		

# Structural Locking Band Product Code: 2-D-SLCK Product Code: 2-D-SLCK-B (for Black) Replace 'D' with required Internal diameter

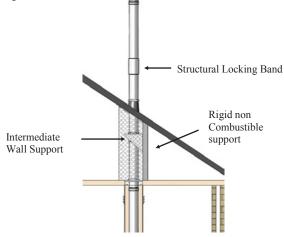
The Structural locking band is designed to strengthen the existing locking band system when the chimney installation demands additional height above the roof line, fascia and soffit which cannot be laterally supported by wall brackets. The structural locking band is not a load bearing component. The height of the Structural Locking band is 300mm.



FITTING—To fit the Structural Locking Band loosen nuts and bolts and slide it over the lengths to be supported. It should be attached to the current flue without removing the existing locking band. Position the structural locking band centrally over the existing locking band ensuring all standard and structural band bolt points are aligned. Secure the nuts and bolts on the structural locking band.

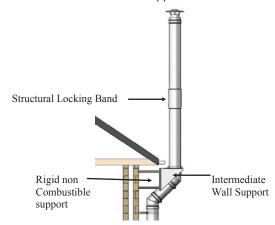
An Intermediate Wall Support should be fitted below the structural locking band to support the weight of the additional chimney length as shown below. The intermediate wall support will support up to 3.5mtrs of chimney lengths.

No additional lengths should be added above this heiaht.



# Typical Installation (as above)

Attach the Intermediate Wall Support to the rigid non combustible support (not supplied by Mi-Flues). Ensure joists/rafters are structurally sound prior to fitting of rigid non combustible support and Intermediate Wall Support. The maximum chimney run from the Intermediate Wall Support is 3.5mtrs.

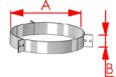


#### Typical Installation (as above)

Occasionally the intermediate wall support will need to be extended beyond the dimensions of the standard product to avoid fascia and soffit. This can be achieved as illustrated above with the use of a standard intermediate wall support attached to a suitable non combustible rigid support structure. This structure should be adequately attached to the supporting wall face and the 4 x intermediate support holes located on the intermediate support (the additional support structure and fixings are not supplied by Mi-Flues). In addition care should be taken to ensure that the supporting wall and purpose built support structure are adequate to support the combined load of the intermediate wall support and chimney length and rain cap or finishing cone. It is not recommended to attach an anti-down draught cowl, H cowl or storm cowl on this type of installation.

Support Components and assembly instructions

# Guy Wire Bracket Product Code: 2-D-GWB Replace 'D' with required Internal diameter



A guy wire bracket is used to brace a chimney when it protrudes more than 1.5 metres beyond its last support. It is clamped to the flue body and allows for the fixing of guy wires to rigid stays. The guy wires are located at 120° angles around the flue. It is recommended that at least 4mm diameter wire is used. (Wire and fixings not included).

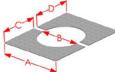
Int. Dia	80	100	125	150	180	200
Ext. Dia	125	150	180	200	225	250
Α	125	150	180	200	225	250
В	30	30	30	30	30	30

# Roof Centering Plate Product Code: 2-D-RCP Product Code: 2-D-RCP-B (for Black)

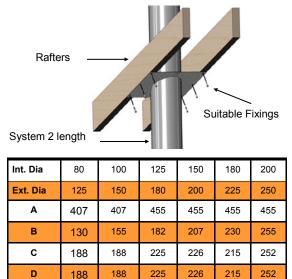
**Replace 'D' with required Internal diameter** A roof centering plate is used to stabilise a chimney

as it protrudes through a pitched roof. It provides lateral support only and is not a load bearing support. **Installation Instructions:** 

The Roof Centering Plate must be positioned around the chimney and screwed to the underside of the pitched roof. Drill holes in the plate and secure with fixings adequate for the purpose (Fixings not included).

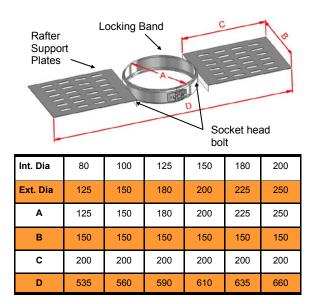


Roof Centering Plate installation through pitched roof



Support Components and assembly instructions

# Rafter Support Product Code: 2-D-RS Replace 'D' with required Internal diameter

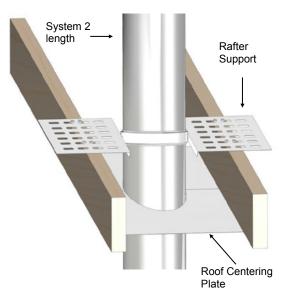


Each Rafter Support comes with instructions. (Fixings are not supplied by Mi-Flues).

#### Installation Instructions

A rafter support is used to support the chimney as it passes through a roof. The rafter support plates must be bolted to the locking band using the socket head bolts provided. The locking band must then be fitted and tightened around the flue and the support plates secured to the top side of the rafters with fixings adequate for the purpose (fixings not included—refer to supports section page 16).

# Rafter Support Installation complete with roof centering plate



# WEATHERING AND FLASHINGS

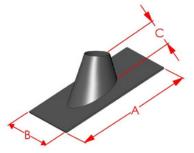
# Lead Flashing (0° - 38°) Product Code: 2-125-150-FLA

A lead flashing is used to seal an insulated chimney as it protrudes through a pitch roof. The adjustable lead flashing suits all pitches between 0° and 38°. This type of Flashing is also suitable for a flat roof (once an up-stand has been built.)

#### Installation Instructions

To install, work the base of the flashing into the roof structure to ensure a rain water run off situation is achieved. The top of the upstand section of the lead flashing in contact with the chimney should be adjusted to ensure it is tight to the outer body of the

chimney. A lead flashing must be used in conjunction with a storm collar.



#### Lead Flashing (45°) Product Code: 2-D-FLA45 Replace 'D' with the flue diameter in use

A lead flashing is used to seal an insulated chimney as it protrudes through a pitch roof. This flashing suits all pitches between 39° and 50°.

#### Installation Instructions

To install, work the base of the flashing into the roof structure to ensure a rain water run off situation is achieved. The top of the upstand section of the lead flashing in contact with the chimney should be adjusted to ensure it is tight to the outer body of the chimney. A lead flashing must be used in conjunction with a storm collar.



#### Other available Lead Flashings

Int Dia	80	100	125	150	180	200
Ext Dia	125	150	180	200	225	250
Available in roof pitch	0 30° 45°	0 30° 45°	0-38° 39°-50°	0-38° 39°-50°	0° 30° 45°	0° 30° 45°
А	450	450	710	710	710	710
В	450	450	600	600	600	600
С	150	150	150	150	150	150

# WEATHERING AND FLASHINGS

#### Storm Collar Product Code: 2-D-STR Product Code: 2-D-STR-B (for Black) Replace 'D' with the flue diameter in use

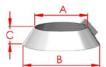
A storm collar must be used in conjunction with a lead flashing. It is attached to the body of the chimney just above the flashing (see illustration below). It is used to direct rainwater away from the top of the flashing and should be sealed with high temperature sealant. (Sealant not supplied).



Int.Dia	80	100	125	150	180	200
Ext.Dia.	125	150	180	200	225	250
Α	125	150	180	200	225	250
В	177	195	235	262	330	370
с	27	30	30	30	50	50

### Storm Collar (large) Product Code: 2-D-STRL Replace 'D' with the flue diameter in use

A storm collar is also available with a larger coverage. It must be used in conjunction with a lead flashing. It is attached to the body of the chimney just above the lead flashing (see illustration below). It is used to direct rainwater away from the top of the lead flashing and should be sealed with high temperature sealant (Sealant not supplied).



Int.Dia	80	100	125	150
Ext.Dia.	125	150	180	200
Α	125	150	180	200
В	230	245	260	300
С	55	55	60	60



# WEATHERING AND FLASHINGS

**EPDM and Silicone rubber flashings** Red Silicone temperature range: -60°C to +240°C

# Pipe Flashing Systems (SUITABLE FOR <u>CLADDED</u> ROOF)

Mi-Flues can provide a complete one piece rubber flashing designed to provide a flexible, durable, weatherproof seal where a chimney passes through a plastic or cladded roof.

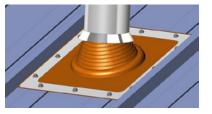
They are supplied ready to install.

The up-stand section of the flashing contains clearly marked diameter indications to aid size selection and accurate cutting of rubber up stand. The base of the flashing contains an aluminium support ring which provides reinforcement where self drilling screws fasten the flashing to the roof. A malleable grade of aluminium allows the base to be easily formed to the profile or contours of the roof sheet.

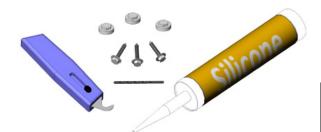
Mi-Flues supply specially designed fixing kits for the rubber based type flashing.

This fixing kit provides the necessary materials required to complete the installation.

Mi-Flues also recommend the fitting of a storm collar (as shown below).



Flashing Description	Product Code
Aquarius Red Silicone 75-150mm	ADSR75-150
Aquarius Red Silicone 125-200mm	ADSR125-200
Aquarius Red Silicone 150-250mm	ADSR150-250
Aquarius Red Silicone 195-300mm	ADSR195-300
Aquarius Red Silicone 230-380mm	ADSR230-380
Aquarius Red Silicone 315-500mm	ADSR315-500
Aquarius Red Silicone 400-750mm	ADSR400-750



Fixing Kit	Product Code
Fixing Kit for 75mm to 200mm (Small)	VSFK-S
Fixing Kit for 150mm to 380mm (Large)	VSFK-L

# WEATHERING AND FLASHINGS

# **EPDM and Silicone rubber flashings**

Red Silicone temperature range: -60°C to +240°C EPDM Black temperature range: -40°C to +115°C

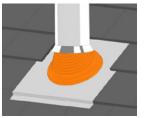
# Pipe Flashing Systems (SUITABLE FOR <u>SLATE/TILED</u> ROOF)

Mi-Flues rubber flashings are available with a lead or aluminium base. They are designed to provide a flexible, durable, weatherproof seal where chimneys pass through roof slates or tiles.

They are supplied ready to install and they eliminate any on site fabrication required with traditional lead slates. The up-stand section of the flashing contains clearly marked diameter indications to aid size selection and accurate cutting of rubber up stand.

The rectangular lead/aluminium base is malleable and can be easily worked into the work structure to ensure a rain water run off situation is achieved.

No Fixing Kit is needed to complete the installation of this type of flashing. Mi-Flues do however recommend the fitting of a storm collar (as shown below).



Flashing Description—Aluminium base	Product Code
Aquarius Alu Base, <mark>Red Silicone</mark> 50-170mm	VASR50-170
Aquarius Alu Base, Red Silicone 100-225mm	VASR100-225
Aquarius Alu Base, Red Silicone 175-380mm	VASR175-380
Aquarius Alu Base, Red Silicone 180-255mm	VASR180-255
Flashing Description—Lead base	Product Code
Aquarius Lead Base, Red Silicone 100-150mm	VLSR100-150
Aquarius Lead Base, Red Silicone 150-280mm	VLSR150-280
Aquarius lead Base, Red Silicone 45-90mm	VLSR45-90



Flashing Description	Product Code
Aquarius Alu Base, EPDM, <b>Black</b> 50-170mm	VAEB50-170
Aguarius Alu Base, EPDM, <b>Black</b> 100-225mm	VAFB100-225

When ordering EPDM and Silicone flashings always refer to the outside diameter of the flue pipe passing through it to ensure the correct size is ordered. For further information on these flashings please contact Mi-Flues.

# Safety / Installation / Regulations

Chimney installation should only be carried out by competent persons and installed in accordance with the building regulations. The chimney components listed in this literature should not be modified unless specifically stated on the specific product information.

The information and illustrations shown in this literature are produced for standard domestic residential dwelling installations. Any commercial / industrial installations including installation within flat's, assembly / places of recreation must be carried out under the specific guidance of building regulations part B and J.

# **Chimney Diameter**

The diameter of the System 2 insulated chimney used in an installation must be equal to or higher than the outlet of the appliance and in accordance with local Building Regulations / appliance manufactures literature. The table below is taken directly from document J.

Installation	Minimum flue size
Fireplace recess for an open fire or other open	200 mm diameter or square section of equivalent
appliance with an opening up to 500 mm x 550 mm.	area.
Fireplace recess with an opening in excess of 500	A free area of 15% of the area of the recess or
mm x 550 mm, or fireplace open on 2 or more	fireplace openings.
sides, e.g. fireplace with canopy.	
Closed appliance up to 20 kW rated output burning	150 mm diameter or square section of equivalent
bituminous coal, peat or seasoned timber.	area.
Other closed appliance up to 20 kW rated output	125 mm diameter or square section of equivalent
burning smokeless, low volatile fuel or wood pellets.	area.
Closed appliance above 20 kW and up to 30 kW	150 mm diameter or square section of equivalent
rated output.	area.
Closed appliance above30 kW and up to 50 kW	175 mm diameter or square section of equivalent
rated output.	area.
Note:	

All dimensions refer to internal measurement.

Connection to connection Flue pipe (Mi-Flues System 1 and System 7)

The connection from the System 2 insulated chimney to the connecting flue pipe must be made using an System 2 start off adaptor. This should be sealed with Mi-Flues high temperature sealant or suitable alternative. This connection should be made in the same room as the appliance itself. The lower end of the twin wall insulated chimney must be extended below the ceiling level and joined to the connecting flue pipe as per distance recommended by the connecting flue pipe manufacturer / building regulations.

If human contact is possible on this section of chimney it should be adequately protected using a non combustible barrier.

#### Chimney support.

The heating appliance should not support the weight of the chimney except when the heating appliance manufacturer states it is suitable to do so. Therefore the weight of the chimney should be adequately supported by the use of suitable support components listed on page 16.

Where the building is to support the lateral and vertical load it should be inspected to ensure it is capable of doing so. If the chimney is installed internally it should be supported with the use of appropriate support products. Further information on the support products is given on page 16.

A base wall support should be used with a tee to provide the chimney support for the initial 3.5 mtrs. An additional intermediate wall support must be used every 3.5mtrs beyond this point with a wall bracket situated centrally between both load bearing components. Firestops are used to provide support at ceiling levels. A rafter support should be used to support a chimney as it passes through a roof. The maximum length unsupported shall not exceed 1.5mtrs, however this distance can be increased to 3mtrs with the use of structural locking bands, however this increased distance should be supported with an Intermediate Wall Support. No chimney joints should be made within the joist and ceiling areas.

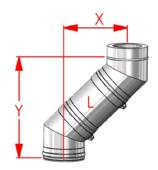
#### Chimney route / offsets

The chimney route should be the shortest, most direct route possible between the connecting flue pipe and the chimney termination. Chimneys should be vertical wherever possible and where an offset is required the angle should not be more that 45° off the vertical. If an offset in the chimney run is necessary i.e. to avoid fascia and soffit, an additional wall bracket must be installed directly above the offset to provide extra lateral support. Long offsets should be avoided but if necessary all lengths installed between offset bends should be supported laterally by additional wall brackets located at 800mm intervals.

#### **OFFSET CHART**

The offset chart below is using the recommended Mi-Flues System 2  $45^{\circ}$  bends. Within the system there should be no more than two offsets which will consist of 4 x  $45^{\circ}$  angles.

# Y = Installed Height X = Installed Offset L = Length used



		DIA	ИЕТЕ	R			
(L)	Off- set	80 mm	100 mm	125 mm	150 mm	180 mm	200 mm
0	x	117	125	132	128	145	152
	Y	280	294	320	312	350	368
250 mm	x	260	265	275	267	286	294
	Y	425	435	464	450	492	509
500 mm	x	437	440	450	455	463	470
	Y	600	612	640	655	668	686
1000 mm	x	790	792	800	797	817	824
	Y	955	965	990	983	1022	1040
-	ADJUSTABLE Length						

X Min 357 365 370 379 386

Min	522	538	560	575	590	608
X Max	463	470	478	484	492	498
Y Max	628	644	669	680	697	715

#### **Distance to Combustibles / Installation**

Mi-Flues System 2 chimney installations must have a minimum distance of 60mm from the outer body of the chimney to any combustible material.

If the chimney passes through a joist or slab then clearance at floor and ceiling joist should be established by the use of a Firestop arrangement. No combustible material should protrude beyond the 60mm safety lugs of the firestop.

In addition, the 60mm clearance should not contain any other non combustible material.

This 60mm air gap must be maintained throughout the installation.

A free flow of ventilation air must be provided to all areas of the chimney installation

#### **Shielding from Human Contact**

If the chimney passes through a separate compartment area of the building it should be adequately protected by a non combustible casing material giving at least half the fire resistance of the compartment wall or floor (see Technical Guidance Document B - Fire Safety and in accordance with building regulation Part J). This non combustible enclosure must be spaced from the chimney to satisfy the minimum 60mm distance stated. This will ensure that accidental contact of any combustible material or human contact to the surface of the chimney will not occur and ensure compliance with the regulations. The chimney should not pass through a storage area or cupboard area, storage space unless it is surrounded by a non-combustible guard which is separated from the chimney by a distance of at least 60mm. Protection in the attic / roof space should also be provided by a non combustible guard / rigid mesh structure positioned at least 60mm from the chimney.

#### **Chimney Termination**

Chimneys should be high enough to ensure sufficient draught and to clear the products of combustion safely. Additional information in relation to appropriate chimney termination heights is provided on page 18.

#### Air supply to appliances

Any room or space containing an appliance should have a ventilation opening. This opening should be in accordance with the Building Regulations.

#### Chimney Plate: Product Code : CP-1

On completion of installation a chimney plate should be completed. The chimney plate provides

Information regarding the Manufacturer, designation, nominal size, distance to combustibles, Installer name, installation date, chimney location and thermal distance. It should be completed by the Installer and securely fixed in an unobtrusive but obvious position within the building such as next to the electricity or gas consumer unit, next to the chimney hearth or next to the water supply stop-cock.

#### **Cleaning / Maintenance**

Adequate provision should be made for inspecting and cleaning the full length of the chimney from the heating appliance. Access components are available in the product range (tee's ) and should be installed to suit the installation, unless sweeping can be undertaken through the appliance. The chimney should be inspected regularly and cleaned at least twice per year, depending on usage and type of fuel used. This should be carried out with the use of a brush which should not be made from black steel.

**NOTE:** Where a chimney is to be cleaned from the top a safe working environment should be available. The chimney should be maintained to ensure that the construction remains in good condition.

Any components showing signs of deterioration which may affect performance should be replaced under professional advice. Any evidence of leakage identified by smoke staining should be rectified immediately. The appliance should not be used until the issue has been rectified.

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#### **Carbon Monoxide**

Carbon monoxide alarm should be installed in accordance with the Building Regulations.

#### Handling and Storage

All System 2 components are individually boxed or packaged and labelled. They should be stored in a dry suitable storage location.

#### Commissioning/handover

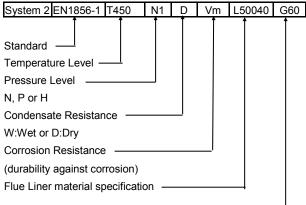
After finishing the chimney installation a physical and operational check should be carried out by the Installer to ensure that the installation has been correctly installed in line with the building regulations, appliance and chimney manufactures literature.

On satisfactory completion of this check relevant documentation and recommendations for inspection, cleaning and maintenance shall be handed over to the user.

# **PRODUCT DESIGNATION**

Mi-Flues twin wall insulated products carry the following designation code:

# Mi-Flues System 2 chimney system EN1856-1 T450 N1 D Vm L50040 G60



Sootfire resistance and distance to combustibles -

G:Yes or O:No / distance to combustibles in mm

System 2 Technical Data	
Fuel	Solid fuel, Oil, Gas and Biomass
Liner Material	316L Stainless Steel
Body Material	304 Stainless Steel
Insulation Material	25mm High density blanket
Max. Distance between lateral supports	1.5m
Thermal Resistance	747.60 m²K/kW
Flow Resistance	.001 Mean roughness
Minimum distance to combustibles	60mm

# **SUPPORTS**

Load bearing components maximum supported lengths (provide vertical, lateral and stabilising support )

Load Bearing Components	80 mm	100 mm	125 mm	150 mm	180 mm	200 mm
Base Wall Support	n/a	n/a	3.5M	3.5M	3.5M	3.5M
Intermediate Wall Support	3.5m	3.5m	3.5M	3.5M	3.5M	3.5M
Firestop	3m	3m	3m	3m	3m	3m
Rafter Support	1.5m	1.5m	1.5m	1.5m	1.5M	1.5M

# **Non Load Bearing Components**

Wall Bracket	1.5m intervals or centrally between base/ intermediate wall supports
Guy Wire Brk	1.5m beyond last support
Roof Centering Plate	Attach to chimney to centralise/stabilise before passing through pitch roof
Structural Locking Band	Attach to current flue without removing the existing locking band. Intermediate Wall Support to be fitted below it.

#### **MI-FLUES SYSTEM 2 COMPONENT WEIGHT CHART**

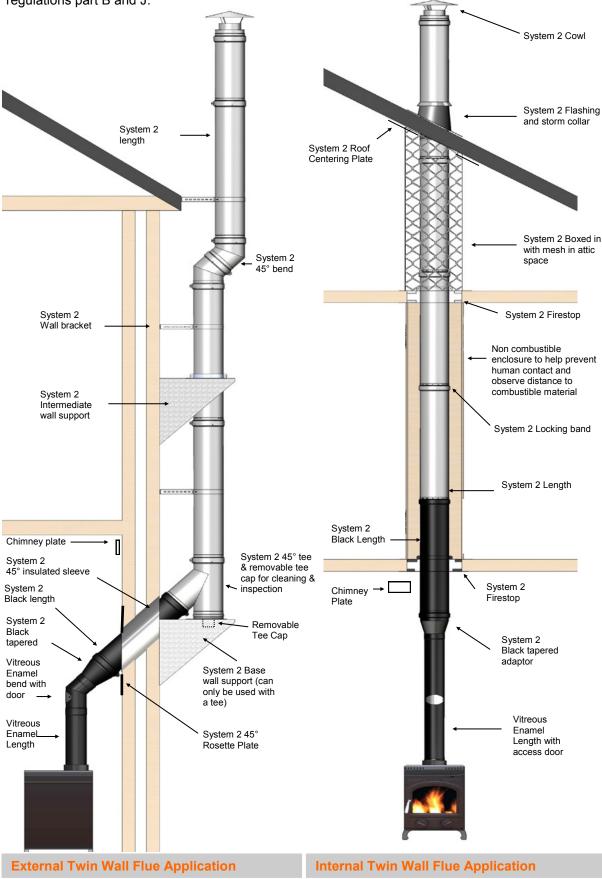
Weight (KG) including locking band, with exception of cowls and finishing cone

Component	80 mm	100 mm	125 mm	150 mm	180 mm	200 mm
1250mm	3.8	4.4	5.3	6.7	-	-
1000mm	3.0	3.6	4.6	4.9	5.8	6.7
500mm	1.5	1.9	2.3	2.5	2.9	3.2
250mm	0.8	1.0	1.4	1.5	1.7	1.9
Adj Length	1.8	2.2	2.7	3.1	3.6	4.3
90° Bend	1.0	1.3	1.9	2.2	-	•
45° Bend	.7	.9	1.2	1.3	1.7	1.9
90° Tee	1.5	1.8	2.5	2.9	3.2	4.1
45° Tee	2.0	2.3	3.6	3.9	4.8	5.2
Cowl	.4	0.5	.6	.7	1.0	1.1
Finishing cone	.5	.6	.8	.9	1.1	1.2
Start off adaptor	0.4	0.5	0.6	0.6	0.9	1.0
Tapered Adaptor	-	-	.9	1.0	-	-

# Installation

The product is easy to handle, but care should be taken when holding, fitting or assembling any part of the system. Users are advised to use suitable precautions such as gloves, eye/face protection, protective clothing etc. to avoid injury. Installers should be aware of the Safety, Health and Welfare at Work Act 2005, Safety Health and Welfare at Work (General Application) Regulations 2007 and the Safety, Health & Welfare at Work (Construction) Regulations 2013. Installers should be aware of the possibility of disturbing asbestos when working in older properties. This should be dealt with in accordance with the strict guidance documents. Particular attention should be taken to ensure suitable PPE is used when applying certain fireclays which can be of a caustic nature, as well as when using any other substances which may be harmful.

The information and illustrations shown in this literature are produced for standard domestic residential dwelling installations. Any commercial / industrial installations including installation within flat's, assembly / places of recreation must be carried out under the specific guidance of building regulations part B and J.

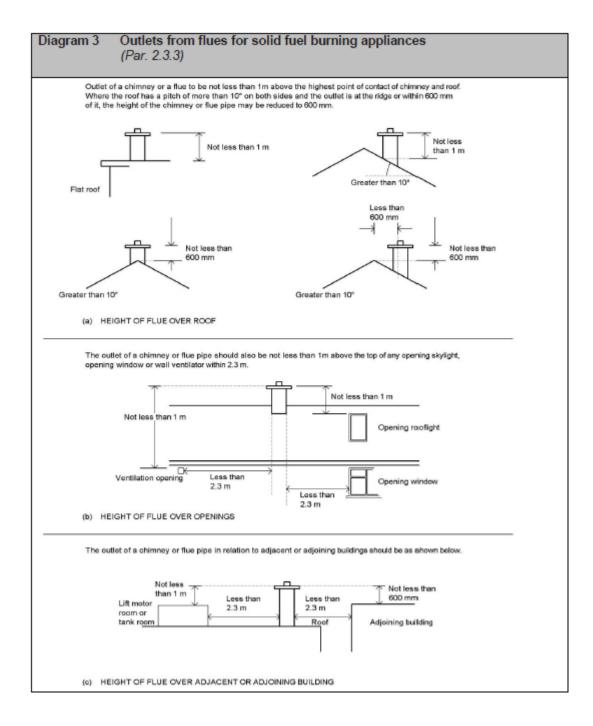


#### **Chimney Termination Heights**

Chimneys should be sited to allow the products of combustion to disperse freely at all times. Chimney termination heights and positions are subject to current Building Regulations, Document J, published by the Department of Environment, Community and Local Government.

The diagram below is taken directly from this document. It refers to Solid Fuel Burning appliances. It does not refer to easy ignitable roofs. For all other appliances please contact the appliance manufacturer.

Document J available through (http://www.environ.ie/en/Publications/DevelopmentandHousing/BuildingStandards)



All flue systems must be installed according to current Building Regulations. Mi-Flues has adopted a policy of continuous product review, and in the interests of development and improvement the Company reserves the right to vary the appearance and performance of any of its products without prior notice. Correct at time of print (January 2015). For updates please check our website.

# Other product brochures available from Mi-Flues



System 7 Vitreous Enamel Stove Pipe



Clay Adaptors & Insert Stove Kits



System 39 Single Wall 304 Grade Stainless Steel Connecting and Relining Flue Pipe



System 11 Cowl Range for Clay Pots



System 4 Flexible Flue for Oil and Gas appliances



System 35 Multi Fuel Liners suitable for solid fuel, oil and gas applications. Also suitable for condensing applications.



System 1 Single Wall Connecting Flue Pipe for Multi Fuel Applications



Tel: +353 46 955 8030 Email: sales@miflues.ie Web: www.miflues.ie