



X-RAY PROTECTION WEAR

Manufacturers and suppliers of X-Ray protective equipment to the medical, dental and veterinary industries.



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WHO WE ARE

Safety First Sales Limited is a privately owned company based in Belfast, Northern Ireland.

The company is a manufacturer of X-ray Protection Garments suitable for the hospital, dentistry and veterinary environment. The garments are produced in a wide variety of styles, to meet their varied applications. Whilst the garments are offered in six standard sizes, we also offers the choice of custom-made garments.

Safety First Sales Limited takes its responsibility for manufacturing Personal Protection Equipment seriously. Our customers expect items of PPE to achieve the highest level of protection possible. To ensure these expectations are met, our products are manufactured from the highest quality materials available and are constructed by a quality conscious manufacturing team.

We also supply a wide range of related accessories, including lead glasses, lead surgical gloves, storage solutions, disposables and we are always expanding our range of products.



EDGE BILAYER

Kemmetech's unique method of production has been hailed as 'the single most significant development in flexible radiation protection materials for medical environments in more than a generation'.

It is physics of the highest level, with the process dependent on the elimination of the effects of fluorescence and secondary-scatter radiation.

The results of wholly independent tests have proven to be highly impressive. X-ray protection garments – aprons, skirts and accessories made from material produced via this method are safer, lighter and much more comfortable for wearers than previously.

The amount of radiation absorbed is reduced by 20% of rival manufacturers' lead-composite materials, and the overall performance level is a massive 40% better than lead-free alternatives.

The UK's National Physical Laboratory's extensive tests for attenuation and lead equivalence confirmed that against 50-150kV using broad beam geometry, Edge Bilayer met all of the major standards including IEC 61331-1: 2014 plus DIN 6857-1.



APRONS



Coat Style C1

Fastens as a conventional double-breasted coat, with the two front panels overlapping down the middle of the front.

Each standard size may be adjusted to allow an increase in chest size of 5cm.

Lead equivalencies available in 0.25, 0.35 or 0.5, manufactured to order based on your requirements.

Coat Style C2

The two front panels of this apron overlap completely.

Lead equivalencies available in 0.25 or 0.5, manufactured to order based on your requirements.



Poncho CP

Tabbard or poncho style aprons fasten with a buckle on one shoulder, and close down the same side with two secure velcro closures. Customers may specify their preferred side for opening, and aprons may open on one shoulder or both.

Lead equivalencies available in 0.25, 0.35 or 0.5, manufactured to order based on your requirements

Children's Aprons



Frontal Aprons



F3 – Basic Apron
Basic Apron with front velcro closure belt.



F6 – Support Apron
Apron with shoulder buckle release and permanent support belt.



F9 – Support Apron
Apron with front Velcro closure belt and elastic back support.



F11 – Support Apron
Apron with Velcro closure at the back, elastic back protector and shoulder strap.



Two Piece CV

Front panels fully overlap. Vest & Kilt have velcro closures with an additional buckle on the kilt.

Each panel has .25LE as standard but can also be .35LE or .50LE according to requirements.

Two Piece CV2

Front panels partially overlap. CV2 have Velcro closures with an additional buckle on the kilt only. Each panel has Edge Bilayer technology .35LE as standard but available in .50LE according to requirements.



Two Piece CT

The tunic vest fastens with a velcro fastener on one shoulder and closes down the same side with a Velcro closure. Customers may specify their preferred side.

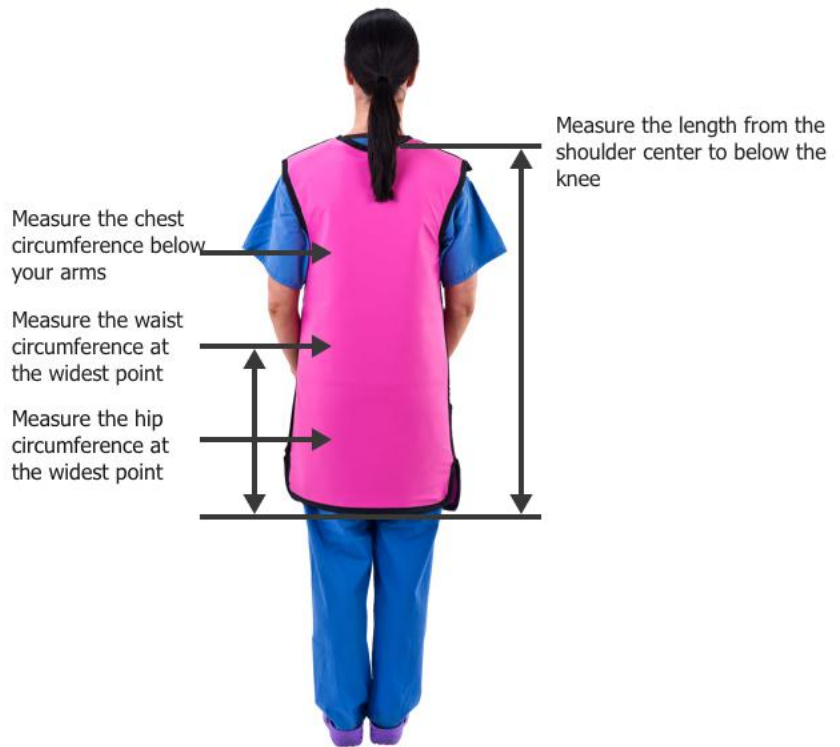
Lead equivalencies available in 0.25, 0.35, 0.5 or 0.7, manufactured to order based on your requirements.



SIZING

Measure for Vest & Skirt:

For the skirt please measure the length from above the hip to below the knee. For the vest, measure from the shoulder center to the center of the hip



Coat Style

Size	Code	Chest	Hip	Coat Length
X-Small	XS	Up to 85cm	85-90cm	85cm
Small	S	Up to 90cm	90-95cm	90cm
Medium	M	Up to 100cm	100-105cm	95cm
Large	L	Up to 110cm	110-115cm	100cm
X-Large	XL	Up to 115cm	115-120cm	105cm

Vest & Kilt

Size	Code	Chest	Hip	Vest Length	Kilt Length
X-Small	XS	Up to 85cm	85-90cm	51cm	55cm
Small	S	Up to 90cm	90-95cm	55cm	58cm
Medium	M	Up to 100cm	100-105cm	62cm	64cm
Large	L	Up to 110cm	110-115cm	65cm	67cm
X-Large	XL	Up to 115cm	115-120cm	68cm	70cm

ACCESSORIES

Gonad Shield GS



Lead Equivalency: Pb 0.50mm

Patient Cover



Half Apron HAL



This half apron provides maximum patient protection with its comfortable, patient friendly design as it attaches around the waist to cover the bottom half of the body for easy on/off convenience.

Leg Protectors



Our leg protectors come in 0.50LE Edge Bilayer technology and protect from the knee down right down to top of the feet.

Mitten

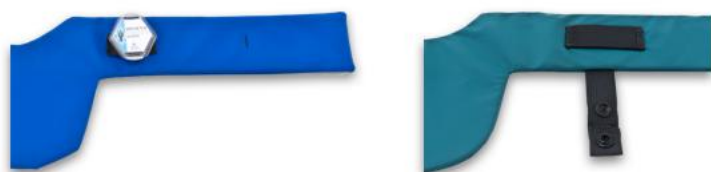
Designed to allow unrestricted use of the fingers whilst shielding the back of the hand. One size fits most hands. Available in pairs.



Thyroid Shield TC

Attaches around the neck to protect the thyroid glands. Can be attached permanently to any model of apron, or with a detachable clip, on request.

Lead equivalency 0.5 as standard.



This handy attachment makes it easy to clip a dosimeter to the thyroid collar.

Children's Thyroid Shield



Thyroid collars are also available in children's sizes, with a range of embroidery options available.

Lead equivalency 0.5 as standard.

Disposable Thyroid Collar DISP



Disposable material with Velcro for securing.

The disposable thyroid gland protects the area on which the thyroid collar comes into contact with the skin.

Lumbar Support Belt

Our unique lumbar support back panel design prevents the apron from slipping back on the shoulders.

Available in small, medium or large.



Waist Support Belt HSG

One of our bestsellers is the hip-belt. The hip-belt has been designed to protect the protective vest from slipping and to lift the overall weight from the shoulders with its unique design. Our waist belt is sewn into the inside of the vest and closes with a Velcro closure on the front. All our customers are very impressed when they see the difference this makes in the weight from the shoulders to the hip. No more painful shoulders or backs.



Detachable Sleeve



Model DS1 (Left)

Dimensions: 25 cm (length) x 44 cm (width when open)

Model DS (center)

Dimensions: 39 cm (length) x 40 cm (width when open)

Model DS2 (Right)

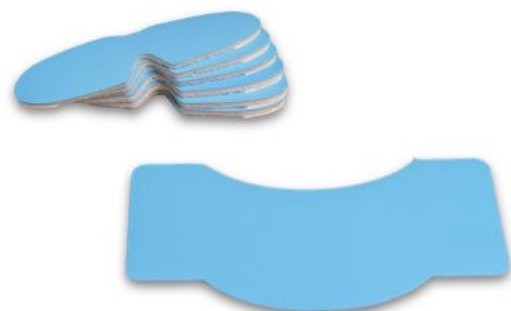
Dimensions like DS, sewn, instead of a Velcro closure

All models can be worn on both sides.

Lead equilibrium: standard Pb 0.50mm

Gray Shield Thyroid & Eye Shield

Provide approximately 40% dose reduction for patients undergoing CT and X-ray procedures. Recommended for single use only.



Scoliosis Shield

Our Scoliosis shield is designed to protect patient breast tissue during screening. This product is available in 0.50 Pb mm LE and can be made with our full range of colours.



Table Drape



Screen Drape



The lamella-like curtains are very easy to install thanks to high-quality velcro fastening and can be loosened if necessary. They protect against the radiation of the lower extremities without hindering the C-arm. The dimensions can be manufactured to your requirements.

Dental Drape DC, DC-TC

Our dental aprons are available in three sizes, S, M and L. Two models are available, DC without sternum protection or DC-TC with sternum protection. Lead Equivalence 0.35 Pb mm or 0,50 Pb mm.



HEAD PROTECTION

Safety Kaps



All permanent head covers are supplied with Edge-Bilayer material. Lead equivalence in 0.25, 0.35 or 0.50 Pb. Available in breathable nylon or soft Poly P.U materials in a variety of colours. These can be seen on our website.

Protection Kaps

The disposable head guard provides maximum hygiene and protection through use of Edge Bilayer material. These Kaps are disposable to ensure prevention of infection. The Edge Bilayer insert can be re-used.

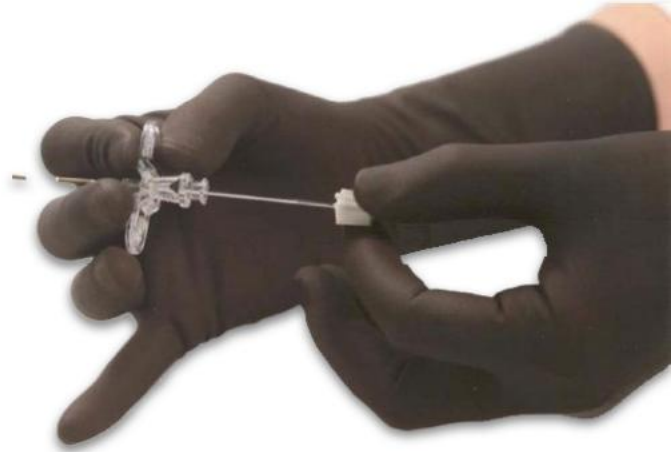
Lead equivalent 0.25, 0.35 or 0.50 Pb. Packs of 20 or 100 parts are offered in sizes M and L.



PROTECTIVE GLOVES

Proguard X-ray Protective Gloves

Made of latex material, these sterile gloves provide both - wearing comfort and flexibility. They are suitable for protection against ionizing radioactivity and can be used for medical procedures including endoscopy, EP / catheter laboratory, haemodynamics, intensive care medicine, nuclear medicine, neuroradiology, orthopedics, pain therapy, radiology, resuscitation and urology.



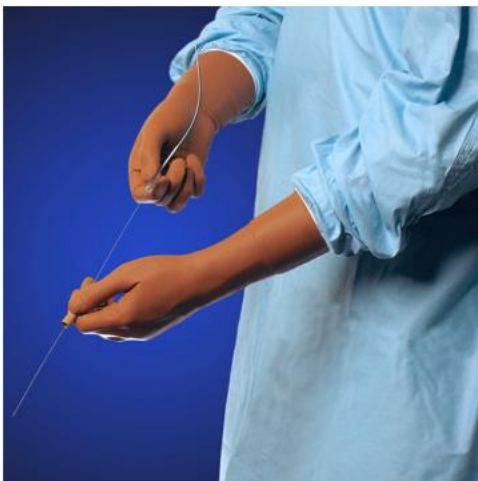
Sizes: 6, 6½, 7, 7½, 8, 8½, 9

Sterilization: Ethylene oxide

Resterilization: Ethylene oxide (4x)

Packing: bag (1 pair), pack (5 pairs), large box (10 boxes)

Latex Free Gloves



Latex Free Sleeves



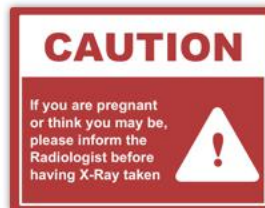
DOOR SETS

Door Types

Each door set is manufacture to the highest quality. The solid hardwood frames were built to withstand the high weight of the blends. All doors are finished with hardwood and attached to four hinges per door to ensure that the doors are also able to withstand a great load.



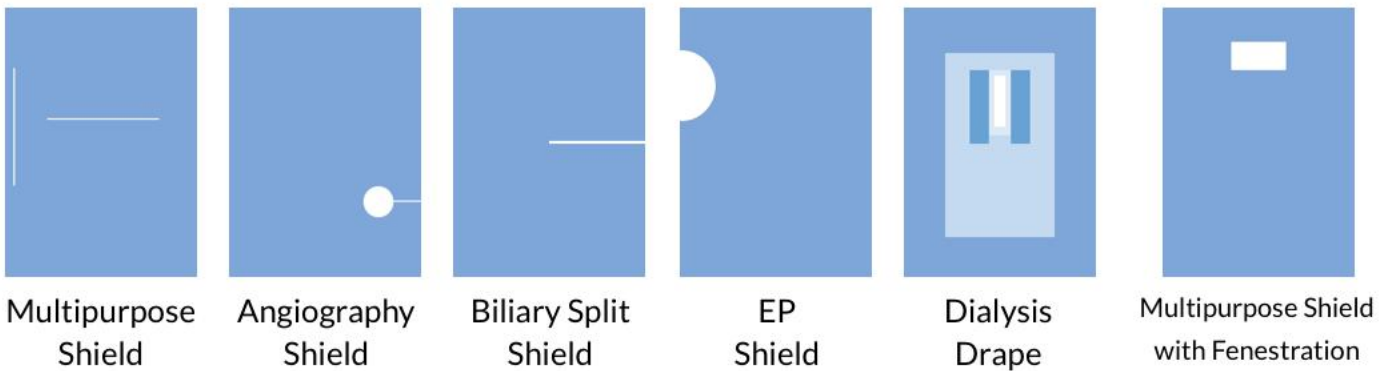
WARNING SIGNS



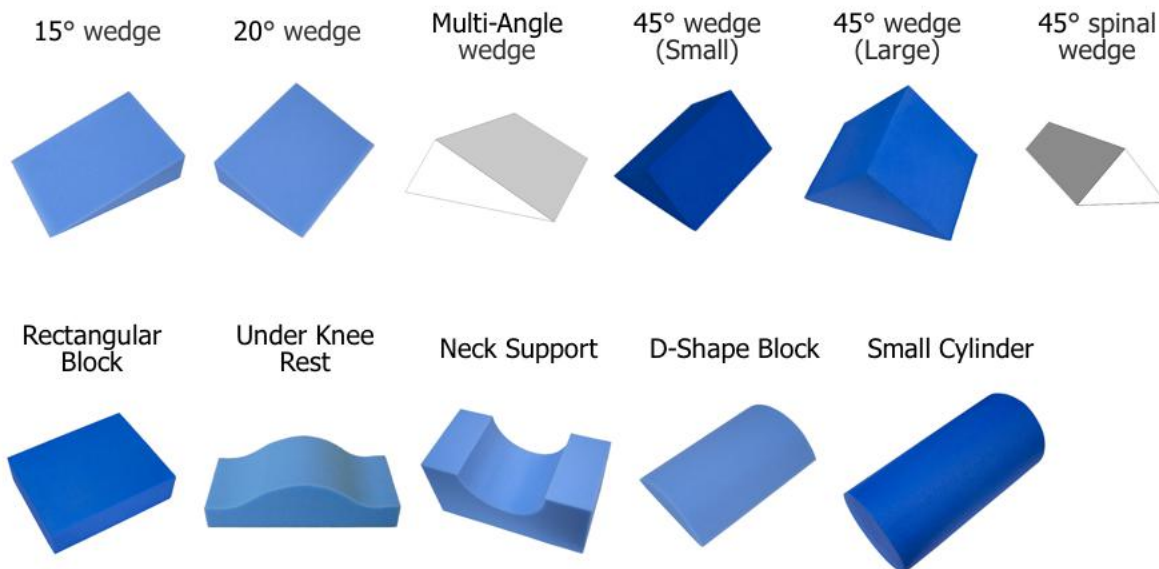
SCATTER ARMOUR

These covers are used to block radiation from the source point. The Scatter Armor shield is placed on the patient. This reduces harmful radiation to physicians and professionals by reducing the amount of harmful radiation by 90%.

The application-specific cut provides optimum safety for the radiation user without hindering him or her at work. By using the most absorbent material in the industry, liquids such as blood and saline solution are absorbed. The covers are available in six different forms, each cut for a specific application.



FOAM PADS



STORAGE

5/10 Arm Mobile rack

These heavy-duty and compact hangers are ideal for departments for which a wall suspension is not possible due to space or due to the construction method. The shoulder-shaped, pivotable hangers help extend the life of the expensive aprons.

The racks are easy to assemble. Delivery in flat packaging.

Available with 5 or 10 tilttable hanger.

Weight: 55cm (5 Hanger)/ 105cm (10 Hanger)

Height: 155cm

Depth: 60cm



Wall Mounted Rack

A wall hanger with shoulder-shaped hangers. The hangers swing away from the wall to allow quick access.

Please specify whether you want a right-hand, left-hand or double-swinging wall stop.

The selection includes models from 1 to 5 arms. Left-handed or right-handed.

Apron Hanger APH

Highly loadable steel hanger, which carry the weight of the protective lead aprons.



Apron Hooks

Our custom hooks are very sturdy and can hold any clothing size without breaking. The hooks are coated with solid PVC and fit the storage systems of all manufacturers.



FABRIC OPTIONS

Patteredned PVC



PVC 103



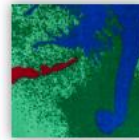
PVC 107



PVC 101



PVC 100



PVC 102



PVC 109



PVC 123

Anti-Microbial Poly P.U.



Navy 11



Pink 51



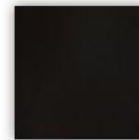
Royal Blue
9



Red 6



Green 12



Black 62



Burgundy
10



Purple 54



Silver/Grey

Nylon



Camouflage



Red 6



Royal Blue
9



Burgundy
10



Navy 11



Yellow 17



Turquoise
221



Green 12



Grey 16



Purple 54



Black 62

Plain PVC



Yellow 17



Royal Blue
9



Red 6



Purple 54



Burgundy
10



Pink 51

Embroidery

We also have the ability to embroider your name and the logo of your clinic or company. The following examples show already existing selection options for pediatric clinics or pediatric departments.



Pocket Topper



PROTECTION VALUES AND SPECIFICATIONS

Refers to the material classes and lead equilibrium, which are applied as standard in the production of protective clothing Kemmetech uncoated material

Size	Colour	Surface	Thickness	Weight	Standard Range	Standard Roll Length
0.175mm Lightweight	Grey	One Side	0.45mm	2.30kg/m ²	1200mm	15m
0.250mm Lightweight	Natural/Lead	One Side	0.70mm	3.30kg/m ²	1200mm	20m
0.250mm Bilayer	Grey/Blue	One Side	0.75mm	2.80kg/m ²	1200mm	20m
0.350mm Bilayer	Grey/Blue	One Side	1.05mm	3.92kg/m ²	1200mm	15m

Protection values and specifications

1. All weights and measurements can vary with a tolerance of +/- 10%.
2. Technical data on special products are provided on request.

Damping

Damping data of radiation protection devices

Results of Radiation Metrology Group, Radiation Protection Division, Health Protection Agency and NPL UK

Kemmetech light weight lead and Bilayer transmission and lead equilibrium.

Lightweight Lead Pb (HPA)	Pb Average	50kV	70kV	90kV	110kV	120kV	150kV
Lightweight @ 0.50mm Pb	0.520	0.38%	0.98%	3.88%	5.18%		
Lightweight @ 0.35mm Pb	0.361	0.99%	2.99%	7.09%	9.09%		
Lightweight @ 0.25mm Pb	0.258	2.49%	5.09%	11.39%	14.19%		

Edge Bilayer Pb (NPL)	Pb Average	50kV	70kV	90kV	110kV	120kV	150kV
Bilayer @ 0.50 Pb 2* 0.25	0.50	0.10%	0.06%	2.00%	3.50%	4.59%	6.70%
Bilayer @ 0.35mm Pb	0.35	0.40%	1.90%	4.40%	6.90%	8.10%	11.60%
Bilayer @ 0.25mm Pb	0.25	1.10%	3.50%	7.50%	11.50%	13.50%	19.10%

EDGE BILAYER PROTECTIVE MATERIAL

Market Development

1. Complies with all relevant global standards and guidelines including the new IEC 61331-1: 2014 directive
2. The only X-ray core material using the Edge Bilayer method
3. The only lead-reduced X-ray protection material developed for increased protection against radiation and absorbed radiation energy
4. Available in 0.25mm and 0.35mm versions
5. Independently certified for 50kV to 150kV
6. Soft and supple, while at the same time exhibiting the tensile strength of traditional products

New in the IEC 61331-3:2014 directive

Section "5.3 Materials" describes the most important changes affecting manufacturers of protective clothing, including:

1. The Lead Equivalency (LE) of heavy protection aprons shall not be less than 0.35mm Pb for the front and not less than 0.25mm Pb for the other ranges.
2. The Lead Equivalency (LE) of light protective aprons shall not be less than 0.25mm Pb.
3. The Lead Equivalency (LE) of thyroid glands may not be less than 0.35mm Pb.

Bilayer Innovation Overcomes K-EDGE:

Previously known and conventional lead-free or lead mixed protective clothing with metals with relatively low atomic mass are problematic. Tests have shown that these materials reached previous test standards only in the ranges between 80 kV and 100 kV and using narrow beam geometry.

The result is increased levels of absorption dose on skin and organs - with real, lasting and career-limiting consequences for medical personnel.

Edge Bilayer protective material has been developed for the new standards and at the same time sets new standards. Unique in concept, design and performance (tested between 50 kV - 150 kV), the material offers unparalleled comfort and flexibility. Edge Bilayer is therefore the best and most advanced x-ray protection available at present.

PROTECTIVE GLASSES & PANORAMIC SHIELDS

Model 53



Weight: 80 grams

Lead Equivalence: Front and side protection: 0.75mm (+/- 0.05)

Frame Material: Durable Nylon

Colors: Black, Blue, Green, Turquoise, Red

The frame is made of extremely durable nylon, which is characterized by excellent flexibility and breaking strength. The molded frame offers maximum wearing comfort. The full saddle bridge distributes the weight evenly on the nose. The side protector is covered with lead glass to allow for a good environmental visibility.

Prescription Range: 4.00 to -7.00

Model 99



Weight: 60 grams

Lead Equivalence: 0.75Pb mm (+/- 0.05)

Side protection: 0.50 Pb mm optional

Frame Material: Durable nylon

Colors: silver, blue, black and red

Made of lightweight nylon, the Ultralite 99 model provides comfort and protection for the entire eye area, eliminating the need for additional side protection. Due to the front bent frame and the rubberized strap ends, a high level of accuracy and protection against splashing is guaranteed. An adjustable "snap tip" cord is supplied with each model as standard.
Prescription Range: 3.00 to -3.00

Alumilite



Weight: 70 grams

Lead Equivalence: 0.75 Pb mm (+/- 0.05)

Side Protection: As Above

Frames Material: Aluminium

Colors: Black, Blue, Red, Silver

Made of durable, lightweight aluminum, the Alumilite model provides comfort and protection for the entire eye area, eliminating the need for additional side protection.

Due to the front bent frame and the rubberized strap ends, a high level of accuracy and protection against splashing is guaranteed. The frame has adjustable, non-slip nose pads for maximum comfort and flexible ankle joint at the temples.

The frame is ideal for spectacle wearers with low corrective strength between 2.50 to - 3.00 diopters.

Prescription Range: 2.50 to -3.00

NIKE Brazen



Weight: 75 grams

Correction strengths: 3.50 to 3.50 diopters

Lead Equivalence Front:

Front glass: 0.75mm lead glass

Side protection: as others

Colors: black with silver, matte black with silver, Mercury grey with lime, matte black with blue

The Nike Brazen models are designed for high doses. The modern design as well as the splash protection offer the highest X-ray safety for application in almost all areas. They are characterized by nylon frames, metal accents and a ventilated nose bridge with anti-fogging function.

Prescription Range: 3.50 to -3.50

NIKE Mercurial



Weight: 60 grams

Lead Equivalence: 0.75 Pb mm (+/- 0.05)

Side protection: 0.50 Pb mm optional

Frame Material: Durable nylon

Colors: midnight navy with blue swoosh, matte black with silver swoosh, matte crystal authracite

Mercurial leaded glasses add some heat to our Nike line-up. Sporty and distinctive these light-weight frames are designed for the doctor athlete in you.

Prescription Range: 3.50 to -3.50

Panoramic Shield



M400



M450

All visors consist of radiation-resistant lead-impregnated Plexiglas and a headboard adjustable on both sides. M400 is facial-shaped and covers the eyes and forehead. The M450 completely covers the face.

Weight: 350 grams

Lead Equivalence: 0.10 Pb mm LE



Safety First Sales Ltd.

Unit 12, Agnes St.
Industrial Estate,
Agnes Street
Belfast BT13 1GB

Contact Us

(0) 28 9035 2920
gareth@safetyfirstsales.com
www.safetyfirstsales.com