



the corrosion expert

Safety Shields

Safety for People, Process Plant and the Planet



Safety Shields are designed to minimise the impact of a leak or spray out from a piping system joint through pressure dissipation. In the case of a small leak the temporary containment they give can provide valuable time to enable detection of the leak and shut down the system before it becomes more serious. In the case of a catastrophic failure causing spray out, the safety shield serves to reduce the effect of the system line pressure and route the leak along the pipe rather than directly at you or your colleagues.

Safety Shields can therefore act as a key part of a risk reduction programme for use with equipment conveying hazardous materials, be they chemicals, high temperature fluids or flammable products.

They can assist in achieving the safety requirement of the Pressure Equipment Directive.

Their application can be plant wide if there is a high level of risk across a site, or specific to lines handling dangerous substances or lines in potentially hazardous locations such as above or alongside walkways.

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Construction

All of the fabric shields come with Velcro fastenings securely sewn onto the shield fabric. This enables one person to wrap the shield around the flange connection and complete the fastening in a short time.



Well retained drawcords give an easy means of closing the shield. Once wrapped around the components the safety shield can be securely tied using the drawcords and a simple reef knot enabling installation by one person in less than a minute.



Cross the right over left



Then under



Cross the left over right



Then under

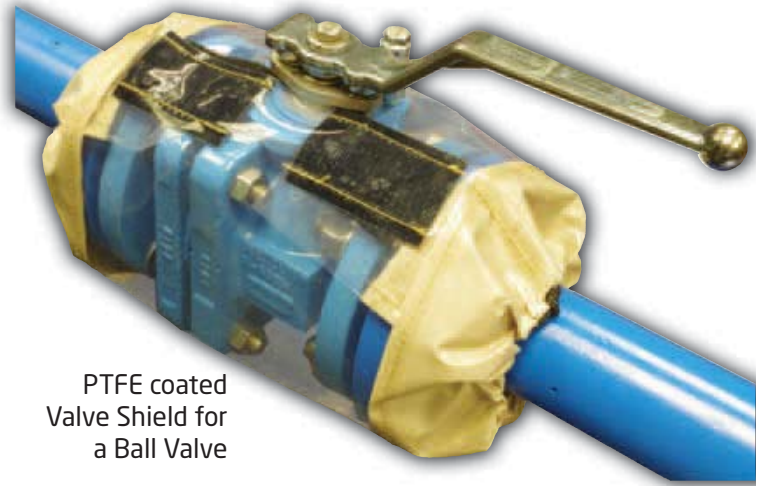


Pull ends to tighten



Valve Shields

As a universal choice for valve shields we recommend the PTFE woven glass cloth shield with a clear high temperature FEP viewing window. Valve shields are available for all types of valve including ball, check, butterfly, gate, plug, diaphragm, control and globe with bonnet shields available for gate and globe valves to enable operation. Shields are also available for covering instrumentation, actuators and electronics to protect them from local atmospheric conditions. Because valve dimensions vary from manufacturer to manufacturer even on the same style of valve it is necessary to provide information on the specific valve types to be protected.



PTFE coated
Valve Shield for
a Ball Valve

High Temperature and Pressure Flange Shields

For an 1100°C and 200 Bar performance there is a 316 stainless steel shield available.

The stainless steel band securely clamps around the flange (different widths are available). A layer of stainless steel netting around the inside diameter of the shield dissipates any pressurised spray by directing it around the flange circumference. This shield is again designed for fitting without tools, has smooth corners to avoid sharp edges and is designed for the flange bolting to remain visible when fitted.



Stainless Steel High Temperature
and Pressure Flange Shield

Flange Shields

Flange shields are available as standard for ASME and DIN flanges for all popular nominal bores and can be manufactured for sizes up to 40 inches (DN 1000).

The most universal and popular product comprises two layers of woven PTFE coated fibreglass cloth for the side pieces and a high temperature FEP viewing window. The draw cords and sewing threads are manufactured from Nomex® the flame resistant meta-aramid. The viewing strip enables complete visual inspection and the product is fire, tear and UV resistant with a continuous operating temperature of 200°C, and near universal chemical resistance.

A product option is to have a PTFE drain attached. This can route any leak to site containment using PTFE tubing as a push fit. This is popular in high traffic areas or where sensitive electronic equipment is in the vicinity. Alternatively it can act as a drain for leaks, a vent for rainwater or moisture or as an emissions test port. It is also possible to fit pH indicator paper to indicate the presence of acids or alkalis.



Universal PTFE coated Flange Shield



Flange Shield fitted with PTFE Drain

Bellows Shields

The shield style for bellows is a double layer PTFE coated woven fibreglass cloth, with a clear high temperature FEP viewing window. The FEP provides nearly universal chemical and UV light resistance and a 200°C upper performance. As standard these are available for 2-5 convolution bellows with ASME or DIN flanges in all nominal bores up to 40 inches (DN 1000).

As non-metallic bellows generally only have a single layer of PTFE or rubber between the media and the outside world and as by definition they are subject to flexible movement throughout their lives we strongly recommend safety shields on bellows applications. These shields are suitable for PTFE, rubber and metallic bellows and are of course designed to function with the range of movements expected in the bellows.



Universal PTFE coated Bellows Shield