


# BALL VALVE SEATS



 **FLUORTEN<sup>®</sup>**

Steel seats with plastic or elastic material inserts for ball valve seals are widely used in the chemical, petrochemical fields, in methane gas pipelines and in oil wells.

The seat is made up of a shaped steel ring and a technopolymer or elastomer ring which is to seal the valve ball.

The complete seat is illustrated schematically in fig. 1.

The metal ring is generally made from these types of steel:

ASTM 182/F316

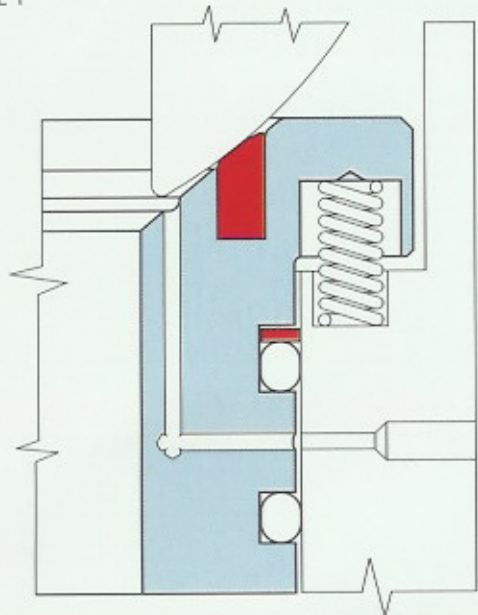
ASTM A 105

However it can be made from other types of steel on request.

According to the fluid, operating temperature and pressure, the seal, meaning the ring which is in contact with the ball, is made from one of the following types of technopolymers:

- PTFE C-755 (Fluorten®)
- ETFE (Tefzel® - Du Pont)
- PCTFE (Kel-F® - 3M Minnesota)  
(Vultalef® - Atochem)
- PEEK (Vitrex® - I.C.I.)
- PI (VespeI® - Du Pont)
- PA 12
- Fluorinated elastomer (Viton® - Du Pont)  
(Tecnoflon® - Ausimont)

FIGURE 1



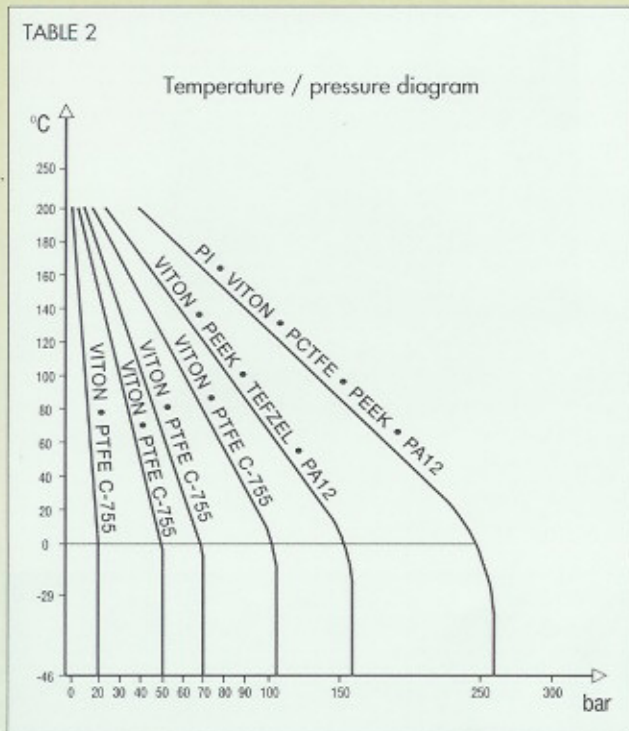
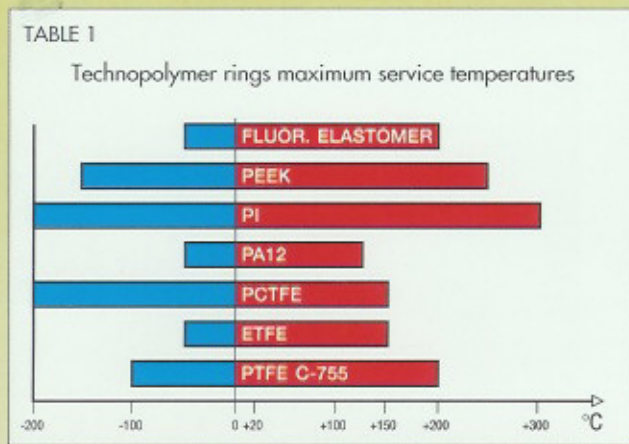
Those listed are the types of technopolymers most used. For particular operating conditions, our Technical Office can advise on the use of different technopolymers. For general reference the maximum service temperatures and pressures are illustrated in tables 1 and 2.

The machining of the steel seats, generally made from laminated rings, is carried out by numerically controlled lathes. Fluorten® can produce seats from DN 2" to DN 48".

The shape of the groove, where the sealing ring is to be inserted, is the outcome of accurate study to ensure that the positioning results stable and long-lasting.

The sealing ring is inserted after the machining of the steel has been completed and any subsequent nickel lining (more and more frequently requested) carried out by appropriately modified and tooled presses.

After the positioning of the sealing ring, the seat is placed on a numerically controlled lathe for the final machining of the sealing surface. This machining is very important both for the shape to be obtained and for the highly accurate finish.





▲ LABORATORY  
▼ MOULDING DEPARTMENT



▲ INJECTION MOULDING  
▼ MECHANICAL WORKING DEPARTMENT



FLUORTEN® is not just the name of our company, founded in 1966, but also the trademark of our high quality products. The company started with fluoropolymers and gradually expanded to an increasingly wide range of technical items in high quality technopolymers. This evolution continues to involve considerable investments and the appointment of highly qualified technical staff. We have built up a production plant with extremely modern extrusion, moulding and mechanical processing departments. Today we can offer our customers high quality special products together with a technical and commercial service to meet all requirements. Company development continues along two basic lines: constant modernization and continuously improved quality.

Although the data, information and suggestions given correspond to our best knowledge, they are simply informative and Fluorten s.r.l. takes no responsibility for any results which may arise from their use, or for any existing patent infringements.



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