In more than thirty years tunnelling activity world-wide, FIP INDUSTRIALE has gained extensive experience in the design and manufacture of fittings for any kind of lining segments as well as a thorough knowledge of related site activities.

**Biblock Systems**

Biblock Systems are circumferential connectors, designed for any kind of tunnel dimension. The main advantages of this type of connection are: cost saving per moulding, quicker segment installation, safer site conditions, less personnel needed at the tunnel front, better segment alignment, smoother inner tunnel surface, lower water friction in hydraulic tunnels and dielectric isolation along the tunnel lining.

The shear capacity is guaranteed mainly by the centering ring, while the pull-out resistance depends on the pin/sockets interaction. Linking bolts and suitable sockets are also available.

The tunnel construction process requires different products of various purposes.

Our pads are made either of elastomeric bitumen with the addition of SBS rubbers, or of glass fibre reinforced polyester.

Different sizes of guiding rods ensure an accurate alignment between the segments and increase the shear resistance during the assembling of each ring.

Moreover, FIP INDUSTRIALE offers adhesives, inserts for segment lifting, grout injection, grounding, rail fixing, anti-vibration pads.

**SEALING GASKETS**

The sealing gaskets are made of all the most commonly used materials (especially EPDM) and can meet the most demanding requirements. Hydrophilic gaskets are also available. The gaskets can be supplied as continuously extruded profiles or in frames with 4 or 6 corners moulded to the profile in compliance with the project requirements.

**OTHER PRODUCTS**

The equipment and competence of the laboratory permit the manufacturing of fittings for any kind of lining segments as well as a thorough knowledge of related site activities.

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