INSULATED TRANSFER PIPING

REFRACTORY LINED MOLTEN METAL TRANSFER PIPE

Molten metal transfer is the primary procedural concern in melting, refining and casting shops. Lip pouring from ladles results in cascading metal and leads to dross formation. Transferring metal long distances in open troughs often requires superheated metal to compensate for temperature losses. Pyrotek offers molten metal transfer pumps with refractory lined steel pipe.

Molten metal is transferred from the pump through a refractory lined steel pipe. The refractory lining consists of high-temperature fibre which has excellent strength and erosion resistance, high insulating properties, is non-wetting to aluminium and zinc alloys and does not require preheating. Premium refractory grades are available for greater lining wear resistance and life. The lined piping limits heat loss to less than 1°C per metre (0.5°F per foot) of length without the need for external heating.

Pipe sections are manufactured in lengths up to 1.2 metres (4 feet). Steel flanges are welded to the ends so pipe sections can be bolted together for longer transfers. Refractory lined elbows are available in angles from 60–105 degrees to redirect the metal flow. Pipe systems are designed so when the pump is turned off the metal will drain out of the pipe. A five degree slope is standard, but other angles are available to meet project requirements.

The maximum length of transfer pipe varies with each application. Contributing factors to pipe length include metal volume, pump rate, pumping frequency, metal temperature and pipe slop. Although most transfers are 1–2 metres (3–6 feet), transfers as long as 25 metres (82 feet) have been successful.

BENEFITS

- Non-wetting to molten aluminium or zinc
- Reduced heat loss during metal transfer; limits heat loss to less than 1°C per metre (0.5°F per foot)
- Limits the dross formation and energy loss that occurs with other transfer mediums
- Does not require preheating
- Systems are designed to drain during pump inactivity
- Designed to customer specifications

Pyrotek

INSULATED TRANSFER PIPING

Product Specifications											
Pump Series	Pipe Size	Pipe OD	Liner OD	Liner ID	Round Flange				Square Flange		
					Flange OD	Flange Thickness	Bolt Diameter	Bolt Circle Diameter	Flange Size	Flange Thickness	Bolt Circle Diameter
D-12, D-13 mm (in)	51 (2)	60 (2.38)	51 (2)	38 (1.5)	152 (6)	19 (0.75)	16 (0.62)	121 (4.75)	114 (4.5)	10 (0.38)	114 (4.5)
M-12, D-27, T-10 mm (in)	64 (2.5)	73 (2.88)	64 (2.5)	38 (1.5)	178 (7)	22 (0.88)	16 (0.62)	140 (5.5)	114 (4.5)	10 (0.38)	114 (4.5)
L-18, M-15, M-28, T-18 mm (in)	102 (4)	114 (4.5)	102 (4)	70 (2.75)	229 (9)	24 (0.94)	16 (0.62)	191 (7.5)	152 (6)	10 (0.38)	152 (6)
M-30, T-25 mm (in)	127 (5)	141 (5.56)	127 (5)	89 (3.5)	254 (10)	24 (0.94)	19 (0.75)	216 (8.5)	178 (7)	13 (0.5)	191 (7.5)
L-25, M-30, T-35, J-20 mm (in)	152 (6)	168 (6.62)	152 (6)	102 (4)	280 (11)	25 (1)	19 (0.75)	241 (9.5)	203 (8)	13 (0.5)	203 (8)

Note: The physical and chemical properties listed represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.

NOV-16-EN-1305

Product Type: 200
Commodity Code: 02029, 18001, 26117, 26118