

Insulating Flange

SPOOL-TYPE INSULATING FLANGE

A different principle of an insulating joint is to use a spool of insulating material bolted between the two hose flanges.

ADVANTAGES

The main advantage of this type of insulating flange is that the minimum resistive path is in the order of one inch. The flange is very simply a one-piece item and the method of fixing is foolproof. Tests carried out on this flange show very high electrical resistance and, during a flow test when a flow rate of 4.7 metres/sec using kerosene was achieved, there was no indication of any electrostatic build-up whatsoever.

CONSTRUCTION

The material of construction is cast nylon, machined to suit the relevant flange sizes, and early test indications of this type of insulating flange show that it possesses all the required properties of a properly fitted standard insulating gasket set, with the additional advantage of being more easily fitted and more readily inspected and tested.

CONDUCTIVITY

There is no doubt that the undesirable electrical currents that occur in ships' product-transfer hoses can be controlled by inserting an insulating flange between two lengths of conductive hose. The spool-type flange has the definite advantage of simpler fitting and greater resistive path, and the very high resistance of this flange has not produced dangerous electrostatic fields under test conditions.

Extract from W.M. Wood.
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Material	- Nylatron GSM
Tensile Strength at 23°C	- 11,000-14,000 psi/7,750-9,850 kg/cm ²
Mod. of Elast at 23°C	- 350,000-450,000 psi/246,000-316,000 kg/cm ²
Flexural Strength at 23°C	- 15,000-15,800 psi/10,500-11,200 kg/cm ²
Coef. of Lin. Exp.	- 100 x 10 ⁻⁶ mm/mm/°C/105 x 10 ⁻⁵ in/in/°F
Melting Point	- 220°C/428°F
Flammability	- Self-extinguishing
Elect. Resistivity	- 10 ¹² ohm/cm
Elec. Field Generation	- None

BORE							
Inches	4	6	8	10	12	14	16
OUTSIDE DIAMETER							
Inches	9	11	13½	16	19	21	23½
PCD							
Inches	7½	9½	11¾	14¼	17	18¾	21¼
LENGTH							
Inches	4¾	5⅝	5⅝	6	6	6½	6½
NO. OF BOLTS							
No.	16	16	16	24	24	24	32
BOLT HOLE DIAMETER							
Inches	¾	⅞	⅞	1	1	1⅛	1⅛
TEST PRESSURE							
psi	750	750	750	750	750	750	750
LONGITUDINAL STRESS							
psi	600	1,121	1,333	1,408	1,273	1,656	1,608

BOLTING DIMENSIONS CONFORM TO ASA 150.

Resistant to: Most common solvents, lubricants, hydrocarbons, esters, ketones, and aqueous solutions of acids and alkalis at pH 5 to pH 11. See separate chemical resistance chart. Can be continuously PTFE-lined for more severe chemical service.