Application information

TMT 15®

Info 9 E - Resistance of Materials

To ensure safe handling, storage and transport of the heavy metal precipitation agent TMT 15®, suitable alkali-resistant materials must be used. The following tables provide an overview of the chemical resistance of conventional commercial materials and sealants to TMT 15®.
Corrosion and immersion tests were carried out in the laboratory on immersed samples at 20–50 °C over a test period of 25 - 40 days. The parameters measured included weight change, swelling, hardness, visual changes, strength characteristics and erosion, depending on the type of material tested.

TEST MEDIUM

TMT 15®	(Trimercapto-s-triazine, trisodium salt) 15 % aqueous solution
CAS-RN	17766-26-6
pH value	12.5
Density	1.12 g/cm^3

CLASSIFICATION

+ (resistant)	The material is not influenced, or is influenced only to a very small degree, by pressure or temperature within the permitted limits.
o (limited resistant)	The material is attacked or its properties altered. The life of the material can be noticeably reduced. Enquiry is recommended
- (not resistant)	The material cannot be used or can be used only under special circumstances. Enquiry is essential

The information is intended as an aid to an orientation for the selection of suitable materials to be used with TMT 15®. Changes in the composition of the medium or special operational conditions can result in variations.

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1. PLASTICS

Material		Commercial product	Resistance
Polyethylene	PE-HD	Hostalen GM 5010 T2 (Hoechst AG)	+
Polyvinylchloride	PVC-U	TROVIDUR EN (Hüls Troisdorf AG)	+
Polypropylene	PP	TROVIDUR EN (Hüls Troisdorf AG)	+
Unsaturated polyester resin, glass-fibre reinforced	UP-GF	PALATAL A 410 (BASF)	+

The resistance of glass-fibre reinforced epoxy resin (EP-GF) was not investigated separately. Because of the good alkaline resistance of epoxy resins, their chemical resistance to TMT 15® can be assumed.

2. SEALANTS

Material		Commercial product	Resistance
Nitrile rubber	NBR	Quality N (Wavin)	+
Ethylene propylenediene terpolymer	EPDM	Quality E (Wavin)	+
E/A copolymer (polyethylene Copolymer)		Lucalen A 2710 H (BASF)	+
Fluoroelastomer	FPM	Viton (Du Pont)	+
Polyvinyl chloride (soft)	PVC-P	Mipolam	0
Silicone rubber	VQM	Vicarb 055	+
Aramid fibre gasket *		Klinger Sil C 4400 (Klinger)	0
Aramid fibre gasket *	UP-GF	Novapress 300 (Frenzelit)	-

* As flat sealant material, Aramid/NBR gaskets with a PTFE sheath are suitable
The resistance of PTFE (polytetrafluoroethylene), such as Teflon (Du Pont), was not investigated. Based on available data from the literature, chemical resistance to TMT 15® can be assumed.

3. METALLIC MATERIALS

Material		Commercial product	Resistance
Non-alloy steel Boiler plate HII		W.-Nr. 1.0425	0
Stainless steel	Type 304	W.-Nr. 1.4541	+
Stainless steel	Type 316	W.-Nr. 1.4571	+

The resistance of non-ferrous metals such as zinc and copper was not investigated. For these metals, as also for aluminium, it can be assumed that they are not resistant or have only limited chemical resistance to TMT 15®.

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