

SOLKANE® - INFORMATIONSERVICE

**Compatibility of Elastomers,
plastics and metals with**

SOLKANE 365 mfc®

SOLVAY FLUOR GMBH

Technical Service – SOLVENTS –

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Compatibility of Elastomers and Plastics with SOLKANE 365 mfc[®]

Compatibility of materials with solvents and solvent components is a key design. Such compatibility issues are known to be most critical for elastomers and plastics and other materials.

Elastomers are used as seals, flexible joints and o-rings, to name but a few. Plastics are mainly used as construction materials.

The market offers a large variety of different trade-names of elastomer- and plastic materials, which are made of similar raw materials and which are only differentiated by certain additives. These additives may effect the thermal and mechanical stability, the swelling properties, as well as the resistance to ageing of elastomers and plastics.

Due to the large variety of compounds, material compatibility tests with SOLKANE 365 mfc[®] in combination with different materials were carried out. Most examinations were carried out as static storage tests at defined temperatures for defined periods. The samples were examined regarding changes of volume, mass and appearance.

The analysis of residues in the liquid after the test can give information about the stability behaviour. If residues of additives from the elastomers or plastics are detected, material properties cannot be ensured.

An elastomer swelling behaviour of 5-10% can be regarded as normal and necessary to guarantee the sealing properties, the charts following displaced a swelling > 5% as an "o".

In EN ISO 175 important notes are given to standardise such kind of investigations. The following tables show the most important results of the material compatibility tests of elastomers, thermoplastics and metals with SOLKANE 365 mfc[®].

Elastomeres:

i.e. tradenames	abbreviation	substance	days	condition	weight	size
EPDM	AP 300/ EPDM 70	Ethylene/Propylene,diene rubber	7	roomtemp	+	+
EPDM , Peroxid vernetzt mit FDA	AP 310/EPDM 70	Ethylene/Propylene,diene rubber	7	roomtemp	+	+
EPDM , S-vernetzt	AP 540/EPDM 70	Ethylene/Propylene,diene rubber	7	roomtemp	+	+
Neoprene	CR	Chloroprene rubber	7	roomtemp	+	*
Nordel	EPDM	Ethylene-Propylene-Diene-rubber	7	roomtemp	o	*
Viton A	FPM / FKM	Fluorinated rubber	7	roomtemp	-	*
HNBR 600	HNBR 600	hydrated NBR (HNBR) Peroxide bonded	7	roomtemp	+	+
Hyperlon (CSM)	Hy 601/CSM 70	chlorsulfonated Polyethylene	7	roomtemp	+	+
Perbunan	NBR	Nitrilbutadienerubber	7	roomtemp	o	*
Chloroprene-Kautschuk CR	Ne 460/ CR 70	Chloroprene-rubber CR	7	roomtemp	+	+
rubber	NR	natural rubber	7	roomtemp	-	*
NBR	P 583/ NBR 70	Acrylnitrie-Butadiene-rubber	7	roomtemp	o	+
Silikonkautschuk	SI	Silicone	7	roomtemp	-	*
Fluorkautschuk (Viton)	Vi 563/FPM 70	Fluorinated rubber	7	roomtemp	-	o
FKM, mit FDA	Vi 665/FPM 75	Fluorinated rubber	7	roomtemp	o	o
Viton Extreme	Vi 981/FEPM 75	Fluorinated Ethylene-rubber	7	roomtemp	o	o

Symbols:

- + = compatible (changes < 5%)
- o = borderline (changes < 20%)
- = incompatible (changes > 20%)
- * = no information/investigations necessary

Thermoplastics:

i.e. tradenames	abbreviation	substance	days	condition	weight	Size
Nylon 66	PA	Polyamid	7	roomtemp	+	*
Polycarbonat	PC	Polycarbonate	7	roomtemp	+	*
PE-HD	PE-HD	Polyethylene	7	roomtemp	+	*
Plexi / Acryl	PMMA	Polymethylmethacrylat	7	roomtemp	-	*
Polypropylene	PP	Polypropylene	7	roomtemp	+	*
Polystyrol	PS	Polystyrene	7	roomtemp	+	*
PVC	PVC	Polyvinylchloride	7	roomtemp	+	*

All tested standard metals (like Al/ Cu/ Fe / steel and also MgAz1) were not affected.

Examinations made at roomtemperature.

Symbols:

- + = compatible (changes < 1%)
- o = borderline (changes < 5%)
- = incompatible (changes > 5%)
- * = no information/investigations necessary

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