The durability of materials is mainly assessed according to their changes in mass and hardness with resistance examinations (DIN 53476 and 53521). The resistance of a rubber mixture is, depending on diffusion, essentially influenced by the thickness of the material being used.

With most stresses there exists a combination of thermo-chemical affects and swelling.

This means, the larger the expansion, the lower the chemical resistance. Therefore these lists of resistances can only be regarded as guides.

The data is taken from laboratory examinations as well as values obtained from experience and are influenced by such variable factors as: temperature, intensity, period of influence etc.

This list of resistances was made taking the above mentioned points into consideration.

The data shown here correspond to the present state of our know-how and should be regarded as guiding values.

We will gladly provide material samples should users wish to conduct their own chemical resistance tests.

Material list

Products	Material	Support material	Production
Support frame for medical tents	PVC	Polyester	Cold vulcanised
Support frame for decon tent	CR	Polyester	Cold vulcanised
Support frame for decon showers	PVC	Polyester	Cold vulcanised
Attachment basins for showers	PVC	Polyester	-
Tent covers	PU	Polyester	-
Tent floor	PVC	Polyester	-
Inflation hoses and air inlet hoses	EPDM	Polyester	-

Temperature resistance

Products	Cold resistance	Cold flexibility	Heat resistance long term	Heat resistance short term
Hot vulcanised	- 40° C	- 20° C	+ 90° C	+ 115° C
Cold vulcanised	- 40° C	- 20° C	+ 70° C	+ 85° C
Rubber hoses	- 40° C	- 30° C	+ 90° C	-
Packing bags	- 20° C	-	+ 50° C	-
Tent covers	- 40° C	-	+ 50° C	-
Controllers, fitted	- 20° C	-	+ 50° C	-
Controllers, plastic	- 20° C	-	+ 50° C	-

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Resistance chart

Description of material	CR	PU	PVC	EPDM
Acetone	o	+	-	-
Acetylene	+	o	o	-
Alum watery	+	+	+	-
Aluminum chloride	+	o	o	+
Aniline	-	+	-	n.d.
ASTM-Oil 1	o	+	n.d.	-
Petrol	o	-	-	n.d.
Benzene	-	-	-	-
Boric acid	+	o	+	+
Bromine (moist)	-	o	-	-
Butyric acid	-	o	o	n.d.
Chlorine gas (moist)	-	o	-	n.d.
Chorine, wet	o	-	n.d.	o
Diesel fuel	o	+	o	-
Iron chloride	+	o	+	+
Crude oil	o	+	o	-
Acetic acid	o	-	o	o
Fatty acid	+	o	n.d.	-
Formaldehyde	+	o	n.d.	+
Glucose	+	+	+	+
Heating oil	+	o	+	-
Potassium chloride	+	o	o	+
Calcium chloride	+	o	o	+
Calcium nitrate	+	+	n.d.	+
Carbon dioxide	+	+	+	+
Carbon monoxide	+	+	-	+
Copper sulphate	+	o	o	+
Adhesive	+	o	n.d.	+
Methyl chloride	-	-	o	o
Sea water	+	+	o	n.d.
Mineral oil	+	+	+	-
Sodium carbonate	+	+	-	-
Ozone	+	o	n.d.	+
Paraffin	+	+	n.d.	-
Perchloric acid	o	-	n.d.	+
Phenol (watery)	-	o	-	+
Phosphoric acid (consentrated)	-	-	+	-
Mercury	+	+	o	+
Nitric acid (fuming)	-	-	+	-
Sulphur dioxide (dry)	-	o	o	n.d.
Sulphuric acid (50%)	+	-	o	-
Nitrogen	+	+	n.d.	+
Carbon tetrachloride	-	o	o	-
Animal fat	+	o	n.d.	+
Toluene	-	-	-	-

\+ resistant 0 conditionally resistant - non-resistant n.d. no details

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