Resistance of thermoplastic polyurethane to chemicals

Within their countless industrial applications, the 4-belt thermoweldable polyurethane belts can come into contact with a wide variety of substances.
The following table is intended as an indication for the use of our belts in the most varied fields of application. The data in the table are based on information provided by the raw material suppliers and on specific tests carried out by 4-belt. However, they are only intended as indications and recommendations and in no way are they a guarantee for the products.
The chemical resistance of thermoplastic polyurethane depends on various factors, such as exposure time, temperature and concentration.
In the event of deterioration, the molecular bonds of polyurethane react with the chemical substance they are in contact with and break apart. This phenomenon is generally preceded by a swelling of the profile.
When the material is deteriorating, the mechanical characteristics change and the resistance of the product is reduced.

Chemical Resistance Chart

ELEMENTS	TEMPERATURE C°	RESISTANCE
WATER	TA	X X X
WATER	80°	X
WATER STEAM	TA	X
ACETIC ACID	TA	X
FORMIC ACID	TA	X
HYDROCHLORIC ACID	TA	X
NITRIC ACID	TA	X
SULPHURIC ACID	TA	X
AMMONIUM CHLORIDE	TA	XXX
SODIUM CHLORIDE	TA	XX
CHLORINE	TA	X
METHANOL	TA	X
DICHLOROMETHANE	TA	O
ETHANOL	TA	XX
ETHYLENE	TA	XXX
ETHYL ACETATE	TA	O
DIETHYL ETHER	TA	X
GLYCEROL	TA	XXX
CHLOROBENZENE	TA	XX
ACETONE	TA	X

ELEMENTS	TEMPERATURE C°	RESISTANCE
ANILINE	TA	O
ASTM A FUEL	TA	XX
ASTM B FUEL	TA	XX
ASTM C FUEL	20°	X
ASTM 1 OIL	80°	XX
ASTM 2 OIL	80°	XX
ASTM 3 OIL	80°	XX
PETROL	TA	XX
BENZENE	TA	X
BUTANOL	TA	X
KEROSENE	TA	XXX
DIESEL FUEL	TA	XX
CYCLOHEXANONE	TA	X
GLYCOL	TA	X
ISOPROPYL	TA	XX
BUTANONE	80°	O
MINERAL OIL	TA	XX
OLIVE OIL	TA	XXX
CORN OIL	TA	XXX
PEANUT OIL	TA	XXX

XXX Excellent Resistance XX Medium Resistance X Low Resistance O Non Resistant