

MATERIAL TEST DATA

TRP COMPOUND REFERENCE N°:
TRPlast® 642 FDA Black

Polymer Type: Perfluoroelastomer (FFKM)



Description

This material provides excellent temperature resistance up to +260°C (+500°F) and has similar chemical resistance to that of PTFE but with elastomeric properties comparable to standard fluorocarbon rubbers. This material is tested to requirements of FDA21 CFR 177.2600 (e & f) for use with aqueous and fatty foods.

Along with all our TRPlast® range, this grade is suitable for use in a wide range of applications where other polymers are not suitable. Do not use any TRPlast® grade with molten alkali metals. Service Temperatures +260°C (+500°F) to -18°C (+0°F).

TYPICAL PHYSICAL PROPERTIES	Property	Typical Values	Test Standard
	Colour	Black	
	Hardness (°IRHD)	77	ISO 48
	Tensile Strength (MPa)	18.5	ISO 37
	Modulus @ 100% (MPa)	12.1	ISO 37
	Elongation @ Break (%)	142	ISO 37
	Tear Strength (N/mm)	20.8	ISO 34
	TR10 (°C)	-3	ISO 2921
	Specific Gravity (g/cm ³)	2.28	ISO 2781
	Compression Set Value in Air, 25% Strain, 24 hrs @ 204°C (%)	11.9	ISO 815

CHEMICAL RESISTANCE	Chemical Group	Rating	Chemical Group	Rating
	Aromatics/Aliphatic oils	1	Ethylene	1
	Acids	2	Esters	1
	Alkalis	1	Ketones	1
	Alcohols	1	Propylene Oxide	1
	Aldehydes	1	Steam/Hot Water	1
	Amines	1	Strong Oxidisers	1
	Ethers	1	Amines >70°C	2

1 Suitable, little or no effect.
2 Minor to moderate effect, not maximum resistance.
3 Moderate to severe effect - may be useful in some limited applications.
4 Unsuitable and not recommended - severe effect

More detailed information available on request

The service limit provided on this datasheet is stated as 15°C below the TR10 value. It is generally accepted within the industry that an elastomer will seal to 15°C below the TR10 figure in static conditions, providing that compression of the seal takes place at ambient conditions. TRP Polymer Solutions Ltd. Recommends that seals are evaluated in service before specification.

The properties given on this data sheet is derived from tests carried out by TRP Polymer Solutions Ltd. They should not be regarded as specifications, but only as typical properties of the material described. It is intended for use by persons having technical skills and understanding of the seal and gasket design. Since the conditions of use are outside our control, nor have we designed the product shape, we can make no warranties, express or implied and assume no liability in connection with any use of this information.

Data Sheet	Page	Issue Date	Issue No.	Issue By
MD239	1 OF 1	14.07.2021	5	CC