



DP SEALS

custom seals & mouldings

[Home](#) | [Factory Tour](#) | [Materials](#) | [Press](#) | [Custom](#) | [Contact](#)



materials selection



DP Seals has a comprehensive knowledge of the characteristics and performance of highly specialised rubber compounds and can provide advice in selecting and developing exactly the right blend of material to meet your requirements. We maintain several of these specialist materials in stock, enabling us to offer fast turnaround and provide for tight deadlines.

Unsure about what material might be best? Check out the article: "[Mind the gap - a guide to custom rubber](#)", published in Design Products and Applications, for ideas.

The information below is provided as a guide to specialist compounds, describing briefly their primary characteristics and main uses, while the table following shows comparative performance characteristics, mechanical and general properties.

Click [here](#) for information on more common compounds, such as natural rubber, neoprene, elastomer, etc.

The relationship between material selection, product performance and blend options is complex and the information given here should be used only as a general guide. If in doubt, [contact us](#).

XNBR - Carboxylated Nitrile

Excellent water, oil and fuel resistance with superior abrasion resistance and load bearing capabilities. Retains physical properties over a wide temperature range.

AU - Polyurethane

Highest abrasion resistance of all elastomers combined with excellent oil, fuel and solvent resistance and high ozone and oxygen resistance. Excellent low temperature properties and high tensile/tear strength.

ECO - Epichlorohydrin

Good low temperature flexibility and gas permeability with high resistance to oils, fuels and common solvents; good weatherability.

HNBR - Hydrogenated Nitrile

Outstanding physical properties combined with good mechanical properties at elevated temperature and excellent resistance to many chemically aggressive technical oils.

CSM - Chlorosulfonated Polyethylene

Outstanding oxygen, ozone and weather resistance and excellent resistance to corrosive chemicals, oil and grease combined with excellent abrasion resistance, tensile and elongation over a very wide temperature range.

FVMQ - FluoroSilicone

Combines the high and low temperature advantages of silicone rubber with resistance to many harsh chemicals for use in the most demanding applications.

SPECIALISED MATERIALS

	XNBR Carboxylated Nitrile	HNBR Hydrogenated Nitrile	AU Polyurethane	CSM Chloro- sulfonated Polyethylene	ECO Epichloro- hydrin	FVMQ Fluoro Silicone
--	---------------------------------	---------------------------------	--------------------	--	-----------------------------	----------------------------

MECHANICAL PROPERTIES

Hardness (Shore A) [hint]	50-95	50-90	40-100	50-90	35-90	40-80
Tensile Strength (1000 psi)	2.5 - 7.0	3.5+	0.8 - 8.0	0.5 - 3.5	2 - 3	2.0
Tear Resistance	Good	Fair	Excellent	Fair	Good	Fair
Impact Resistance	Excellent	Good	Excellent	Good	Good	Fair
Compression Set (Method B,%)	20 - 50	5 - 20	10 - 45 ^b	35 - 80 ^a	20 ^b	-
Electrical Resistance (ohm/cm ²)	-	-	0.3*10 ¹⁰ - 4.7*10 ¹³	1*10 ¹⁴	-	-

GENERAL PROPERTIES

Low Temperature (°C)	-25	-20	-40	-40	-50	-60
Continuous High (°C)	125	150	100	100	140	200
Intermittent High (°C)	140	165	120	120	150	225
Ozone (protected)	Good	Good	Excellent	Excellent	Excellent	Excellent
Weather and Sunlight	Good	Good	Good	Excellent	Excellent	Excellent
Gas Permeation	Fair	Fair	Fair	Excellent	Fair	Fair
Water	Fair	Fair	Good	Good	Good	Excellent
Acid/base Diluted	Good	Good	Fair	Excellent	Good	Excellent
Acid/base conc.	Fair	Fair	Poor	Fair	Fair	Fair
Solvent Aliphatic	Good	Excellent	Fair	Good	Excellent	Good
Solvent Aromatic	Good	Fair	Poor	Fair	Good	Fair
Oil and Gasoline	Excellent	Excellent	Good	Good	Excellent	Fair

All information and media © 2002 DP Seals Ltd.

Site designed, produced and managed by [Direction Advertising](#)