

TECHNICAL DATA SHEET

DS 041

NON CONTROLLED UNLESS STATED OTHERWISE

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ISSUE

7

DATE

6 February 2006

APPROVED

P.J.B

TITLE.

Properties of Rubber.

PROPERTIES	NATURAL RUBBER	NEOPRENE CR	NITRILE NBR
HARDNESS RANGE (Shore A)	30 - 95 degrees	30 - 90 degrees	35 - 95 degrees
COST FACTOR	1	1	1
HEAT RESISTANCE Max Continuous Max Intermittent	75 Celsius 105 Celsius	80 Celsius 125 Celsius	100 Celsius 130 Celsius
LOW TEMP RESISTANCE	- 60 Celsius	- 35 Celsius	- 20 Celsius
RESISTANCE'S Oxidation Ozone & Weathering	Good Fair	Very Good Very Good	Good Fair
OIL RESISTANCE ASTM Oil No. 1 @ 20 C @ 100 C ASTM Oil No. 3 @ 20 C @ 100 C	Poor Unsatisfactory Unsatisfactory Unsatisfactory	Excellent Good Good Fair	Excellent Good Excellent Good
FUEL RESISTANCE ASTM Fuel "B" @ 40 C	Unsatisfactory	Poor	Fair
SOLVENT RESISTANCE 20 C Alcohol Acetone Benzene	Good Fair Unsatisfactory	Good Fair Unsatisfactory	Good Unsatisfactory Unsatisfactory
CHEMICAL RESISTANCE Acids Bases	Fair Good	Good Fair	Good Fair
PHYSICAL STRENGTH	Excellent	Good	Good
TEAR & ABRASION RESISTANCE	Excellent	Good	Good
RESILIENCE	Excellent	Very Good	Good
ELECTRICAL STRENGTH	Excellent	Good	Poor
FLAME RESISTANCE	Fair	Self-extinguishing	Poor
WATER RESISTANCE	Very Good	Good	Good

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The aromatic content of oils has a swelling effect on rubber as follows:-

- i). ASTM oil No. 1 (Flash point 243 Celsius, Aniline point 124 Celsius) has a moderate swelling effect.
- ii). ASTM oil No. 3 (Flash point 163 Celsius, Aniline point 70 Celsius) has a severe swelling effect.

Note: Both oils are petroleum based and are fully described in ASTM DA71.

STORAGE OF RUBBER COMPONENTS

To ensure against the deterioration of products and materials the following recommendations should be observed when handling, packing and storing rubber components.

- a). Temperature:- Store below 25 Celsius and away from direct sources of heat.
- b). Atmosphere:- Should be dry (non condensing) with a humidity of less than 80%.
- c). Light:- Protect from direct sunlight or intense artificial light having an ultraviolet content.
- d). Ozone:- Do not store where equipment is capable of generating ozone, i.e. mercury vapour lamps or high voltage electrical equipment.
- e). Contact:- Do not allow to come into contact with:-
 - i). Liquid, semi liquid or hydrocarbons i.e. petrol, grease, acids, disinfectants or cleaning fluids.
 - ii). Metals and alloys i.e. copper, manganese and iron (except when bonded, in which case the metal of one article should not come into contact with the rubber of another).

For additional information regarding the storage of rubber components refer to BS ISO2230:2002

Please contact our Applications Department at the address below if you have any problems relating to installation or selection.



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