XNBR Wear 90S

XNBR-WEAR90S-01 · XNBR · 90 Shore A · Sulfur cure · −20 °C to +100 °C ○ NO POLE MARK

For rubber that has pipe dragged through it.

READ THE CODE XNBR-WEAR90S-01 = XNBR, WEAR duty (abrasion and wear), 90 Shore A, S for sulfur cure, recipe 01.

DEVELOPMENT TARGETS: NOT MEASURED RESULTS. Every value on this sheet is a design target or a release limit for development. Replace targets with measured typical values (mean of production lots, with the number of lots) and the test report reference before external use.

Description

A 90 Shore A carboxylated nitrile for stripper rubbers, snubbing elements and rotating control device seals: high abrasion and tear resistance at elevated temperature in drilling fluids.

POLYMER	XNBR (carboxylated nitrile)
DUTY	WEAR: abrasion and wear
CHEMISTRY	Carboxylated nitrile (XNBR), abrasion grade
CURE	Sulfur
HARDNESS	90 Shore A nominal
DESIGN RANGE	−20 °C to +100 °C
COLOUR	Black
PORTFOLIO	Wave 2, probable
POLE MARKS	None

Applications

- Stripper rubbers and snubbing elements
- Rotating control device sealing elements
- Pipe wipers and drill pipe protectors
- Abrasive slurry seals

Properties: targets and release limits

PROPERTY	TARGET	RELEASE LIMIT	UNIT	TEST METHOD
Hardness	**90**	**85 to 95**	Shore A	ASTM D2240 / ISO 48-4, 1 s
Tensile strength	**24**	**min 20**	MPa	ASTM D412 die C / ISO 37 type 2
Elongation at break	**250**	**min 180**	%	ASTM D412 die C / ISO 37 type 2
Tear strength	**55**	**min 45**	kN/m	ASTM D624 die C
Abrasion loss	**45**	**max 60**	mm³	ISO 4649 (DIN abrasion)
Compression set, 22 h at 100 °C	**25**	**max 35**	%	ASTM D395 method B, button
IRM 903, 70 h at 100 °C, volume change	**+5**	**max +10**	%	ASTM D471 / ISO 1817
TR10	**−15**	**max −12**	°C	ASTM D1329 / ISO 2921

Typical values are indicative and are not a warranty. Targets are design values, not measured results. The user is responsible for confirming suitability in the actual application. Pascalor · Compounds with a paper trail.

Qualification plan

The grade code says what this compound is designed for. This table says what it has passed: a duty is claimed only once its report is on file. Evidence for the WEAR duty: Abrasion (ISO 4649) and tear data.

TEST	STANDARD OR METHOD	CONDITIONS	STATUS
Drilling fluid ageing	In-house method, published with results	Oil-based and water-based mud at 90 °C	Planned
Abrasion after ageing	ISO 4649	After fluid ageing	Planned

Processing

Press cure guide: 10 min at 160 °C. XNBR is scorchy: store cool and check Mooney scorch before use.

Storage and lot record

Target 2 months at or below 25 °C. Every lot ships with its Passport: results against these limits, the rheometer cure curve and the raw-material lots.

How to read this sheet

Target: the value the compound is designed to reach, used until measured data exists.

Typical: the mean of measured production lots, stated with the number of lots. Replaces the target.

Release limit: the window every lot is tested against. A lot outside it does not ship.

Method: the standard, specimen and conditions behind each number.

Supply

Supplied as uncured compound by the batch, with the lot Passport. Test slabs, buttons and trial quantities are available for qualification.

Tell us the fluid, the temperature range, the pressure and the seal design, and we will say whether this grade fits, and which one does if it does not.

Pole marks

This is a reference or general grade and carries no pole mark. The red HPHT mark is for high-pressure duty at 160 °C or above; the blue HPLT mark is for sealing under pressure at −30 °C or below.

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