PU Wear 95X

PU-WEAR95X-01 · PU · 95 Shore A · Other cure · −30 °C to +90 °C

NO POLE MARK

For parts that slide, scrape and come back for more.

READ THE CODE PU-WEAR95X-01 = PU, WEAR duty (abrasion and wear), 95 Shore A, X for a polyurethane system, not a rubber 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 95 Shore A polyether polyurethane for pipeline pig cups and discs, wipers, rotating control device elements and rod seals: the highest abrasion resistance and tensile strength in the range, with hydrolysis resistance for water service.

POLYMER	PU (polyurethane)
DUTY	WEAR: abrasion and wear
CHEMISTRY	Polyether-based polyurethane
CURE	Other
HARDNESS	95 Shore A nominal
DESIGN RANGE	−30 °C to +90 °C
COLOUR	Black
PORTFOLIO	Wave 3, probable
POLE MARKS	None

Applications

- Pipeline pig cups, discs and seals
- Rotating control device elements
- Hydraulic rod and piston seals, wipers
- Mud pump pistons and wear parts

Properties: targets and release limits

PROPERTY	TARGET	RELEASE LIMIT	UNIT	TEST METHOD
Hardness	**95**	**92 to 98**	Shore A	ASTM D2240 / ISO 48-4, 1 s
Tensile strength	**40**	**min 35**	MPa	ASTM D412 die C / ISO 37 type 2
Elongation at break	**450**	**min 350**	%	ASTM D412 die C / ISO 37 type 2
Tear strength	**100**	**min 80**	kN/m	ASTM D624 die C
Abrasion loss	**20**	**max 30**	mm³	ISO 4649 (DIN abrasion)
Compression set, 22 h at 70 °C	**30**	**max 40**	%	ASTM D395 method B, button
Water, 500 h at 70 °C, tensile strength retained	**To be measured**	**min 80 (target)**	%	In-house hydrolysis test

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
Hydrolysis	In-house method, published with results	Water at 70 °C, 500 h and 1,000 h	Planned
Abrasion and tear	ISO 4649, ASTM D624	Before and after ageing	Planned

Processing

Cast or millable processing per the processing sheet (to be issued).

Storage and lot record

Per processing sheet. 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.