PU Dissolvable 85X

PU-DIS85X-01 · PU (degradable) · 85 Shore A · Other cure · +50 °C to +120 °C

NO POLE MARK

Holds the frac. Then disappears on schedule.

READ THE CODE PU-DIS85X-01 = PU, DIS duty (dissolvable elements), 85 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

An 85 Shore A degradable elastomer for frac plug elements, wipers and completion seals that must hold pressure during the job and then break down in well fluids, so no mill-out run is needed.

Applications

- Dissolvable frac plug sealing elements
- Dissolvable wiper plugs and seals
- Temporary isolation in completions

POLYMER	PU (degradable) (polyurethane)
DUTY	DIS: dissolvable elements
CHEMISTRY	Hydrolysable polyurethane elastomer (dissolvable)
CURE	Other
HARDNESS	85 Shore A nominal
DESIGN RANGE	+50 °C to +120 °C
COLOUR	Black
PORTFOLIO	Wave 3, probable
POLE MARKS	None

Properties: targets and release limits

PROPERTY	TARGET	RELEASE LIMIT	UNIT	TEST METHOD
Hardness	**85**	**80 to 90**	Shore A	ASTM D2240 / ISO 48-4, 1 s
Tensile strength	**30**	**min 25**	MPa	ASTM D412 die C / ISO 37 type 2
Elongation at break	**400**	**min 300**	%	ASTM D412 die C / ISO 37 type 2
Pressure held in plug fixture, 15 min at 80 °C	**69**	**min 69**	MPa	In-house plug fixture
Degradation in 3 % KCl at 80 °C	**7 to 14**	**window**	days	Mass loss and fragmentation, in-house method
Service window	**50 to 120**	**design window**	°C	Design limit

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 DIS duty: Degradation-rate curves at the stated temperature and fluid.

TEST	STANDARD OR METHOD	CONDITIONS	STATUS
Degradation curves	In-house method, published with results	Customer brines at 60, 80 and 100 °C	Planned
Pressure holding	In-house plug fixture	At temperature, before degradation starts	Planned

Processing

Processing per the material's processing sheet (to be issued). Store dry and cool.

Storage and lot record

Target 3 months, sealed from moisture. 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.