EPDM EHC 70P

EPDM-EHC70P-01 · EPDM · 70 Shore A · Peroxide cure · −40 °C to +125 °C ○ NO POLE MARK

The right rubber for the turbine's fire-resistant fluid.

READ THE CODE EPDM-EHC70P-01 = EPDM, EHC duty (phosphate-ester (EHC) fluids), 70 Shore A, P for peroxide 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 70 Shore A EPDM for phosphate-ester fire-resistant fluids: steam turbine electro-hydraulic control (EHC) systems, accumulator bladders and fire-resistant hydraulics. Nitrile, the usual hydraulic rubber, is attacked by these fluids.

POLYMER	EPDM (ethylene propylene diene)
DUTY	EHC: Fire-resistant hydraulics
CHEMISTRY	Peroxide-cured EPDM, phosphate-ester grade
CURE	Peroxide
HARDNESS	70 Shore A nominal
DESIGN RANGE	−40 °C to +125 °C
COLOUR	Black
PORTFOLIO	Wave 3, probable
POLE MARKS	None

Applications

- Steam turbine EHC system O-rings and seals
- Accumulator bladders and diaphragms
- Fire-resistant hydraulic systems in power plants and steel mills

Properties: targets and release limits

PROPERTY	TARGET	RELEASE LIMIT	UNIT	TEST METHOD
Hardness	**70**	**65 to 75**	Shore A	ASTM D2240 / ISO 48-4, 1 s
Tensile strength	**13**	**min 10**	MPa	ASTM D412 die C / ISO 37 type 2
Elongation at break	**300**	**min 220**	%	ASTM D412 die C / ISO 37 type 2
Compression set, 22 h at 125 °C	**15**	**max 25**	%	ASTM D395 method B, button
TR10	**−45**	**max −40**	°C	ASTM D1329 / ISO 2921
Phosphate ester (ISO VG 46), 168 h at 100 °C, volume change	**+4**	**max +10**	%	ASTM D471 / ISO 1817
Phosphate ester (ISO VG 46), 168 h at 100 °C, hardness change	**−3**	**−6 to +3**	points	ASTM D471 / ISO 1817
Mineral oil (IRM 903)	**Not suitable**	**—**	—	EPDM swells in mineral oils

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 EHC duty: Immersion in phosphate-ester fluid at temperature.

TEST	STANDARD OR METHOD	CONDITIONS	STATUS
Phosphate ester immersion	ASTM D471	Customer fluid, 168 h and 1,000 h at 100 °C	Planned
Turbine OEM approval	Customer qualification	Per OEM	Planned

Processing

Press cure guide: 10 min at 175 °C. Post-cure guide: 2 h at 150 °C (optional).

Storage and lot record

Target 6 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.

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.