FVMQ Ultra-Low-Temp 70P

FVMQ-ULT70P-01 · FVMQ · 70 Shore A · Peroxide cure · −60 °C to +175 °C

HPLT

Fuel-resistant and flexible at −60 °C.

READ THE CODE FVMQ-ULT70P-01 = FVMQ, ULT duty (ultra-low temperature, sealing at −55 °C or below), 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 fluorosilicone for static seals in fuels, oils and air at very low temperature: arctic instrumentation, fuel systems and controls, to −60 °C.

POLYMER	FVMQ (fluorosilicone)
DUTY	ULT: ultra-low temperature
CHEMISTRY	Fluorosilicone (FVMQ)
CURE	Peroxide
HARDNESS	70 Shore A nominal
DESIGN RANGE	−60 °C to +175 °C
COLOUR	Black
PORTFOLIO	Wave 3, probable
POLE MARKS	HPLT

Applications

- Arctic instrument and control seals
- Fuel and lube system static seals in cold climates
- Generator and turbine control equipment in cold regions

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
Specific gravity	**1.45**	**±0.02 of approved value**	—	ASTM D297 / ISO 2781
Tensile strength	**8**	**min 6.5**	MPa	ASTM D412 die C / ISO 37 type 2
Elongation at break	**250**	**min 180**	%	ASTM D412 die C / ISO 37 type 2
Compression set, 22 h at 175 °C	**20**	**max 30**	%	ASTM D395 method B, button
TR10	**−58**	**max −55**	°C	ASTM D1329 / ISO 2921
ASTM Fuel C, 70 h at 23 °C, volume change	**+20**	**max +25**	%	ASTM D471 / ISO 1817
IRM 903, 70 h at 150 °C, volume change	**+5**	**max +10**	%	ASTM D471 / ISO 1817

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 ULT duty: TR10 (ASTM D1329) and a low-temperature sealing test at the rated temperature.

TEST	STANDARD OR METHOD	CONDITIONS	STATUS
Low-temperature sealing	Product-configured O-ring test (method published with the report)	Sealing at −60 °C (static) at rated pressure; leak onset temperature reported with TR10 of the same lot	Planned
Fuel and oil immersion	ASTM D471	Fuel C, IRM 903, customer fluids	Planned

Processing

Press cure guide: 10 min at 170 °C. Post-cure guide: 4 h at 200 °C.

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 on this grade

HPLT: designed to seal under pressure at −30 °C or below. Neither term has an industry-wide definition. These are Pascalor rules, and every datasheet states the actual numbers.

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.