NR Gate 65S

NR-GATE65S-01 · NR · 65 Shore A · Sulfur cure · −40 °C to +70 °C

NO POLE MARK

Hydro gate seals to IS 15466, with the test report to show it.

READ THE CODE NR-GATE65S-01 = NR, GATE duty (hydro gate seals), 65 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 65 Shore A natural-rubber compound for hydraulic gate seals (music-note, double-bulb, flat and moulded corner seals) made to IS 15466:2004, with optional PTFE or fluorocarbon cladding for low friction.

POLYMER	NR (natural rubber)
DUTY	GATE: hydro gates
CHEMISTRY	Sulfur-cured natural rubber / SBR, to IS 15466
CURE	Sulfur
HARDNESS	65 Shore A nominal
DESIGN RANGE	−40 °C to +70 °C
COLOUR	Black
PORTFOLIO	Wave 2, probable
POLE MARKS	None

Applications

- Radial, vertical-lift and stoplog gate seals (music-note, double-bulb, flat, corner)
- Spillway and intake gates
- Penstock and sluice valve seals
- Lock gates and water infrastructure

Properties: targets and release limits

PROPERTY	TARGET	RELEASE LIMIT	UNIT	TEST METHOD
Hardness	**65**	**60 to 70**	Shore A	IS 3400 (Part 23) / ISO 48-4
Tensile strength	**18**	**min 14.5 (IS 15466)**	MPa	IS 3400 (Part 1)
Elongation at break	**550**	**min 450 (IS 15466)**	%	IS 3400 (Part 1)
Water absorption, 7 days	**3**	**max 10 (IS 15466)**	%	IS 3400 (Part 6)
Tensile retained after 48 h oxygen ageing at 70 °C, 2.1 MPa	**90**	**min 80 (IS 15466)**	%	IS 3400 (Part 4)
Low-temperature brittleness, 3 min at −40 °C	**No cracks**	**no brittleness (IS 15466)**	—	IS 15466 Annex A
Compression set, 22 h at 70 °C (additional)	**20**	**max 30**	%	ASTM D395 method B, button
Ozone, 50 pphm, 20 % strain, 72 h at 40 °C (additional)	**No cracks**	**no cracks**	—	ISO 1431-1

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 GATE duty: Tests to IS 15466 or the specification the gate maker names.

TEST	STANDARD OR METHOD	CONDITIONS	STATUS
IS 15466 Table 1 test report	IS 15466:2004 (check the current BIS copy)	At an NABL-accredited laboratory	Planned
Cladding adhesion	IS 15466	PTFE or fluorocarbon cladding, at least 1 mm	Planned

Processing

Press or continuous cure; guide 15 min at 150 °C for moulded corners. Extrusion grade variant on request.

Storage and lot record

Target 3 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.