

XF 536 M-1 / XF 537-1 Structural Adhesive

Product Description

XF 536 M-1 with XF 537 is a two component thixotropic mastic specially designed for load bearing applications in LNG ships and land storage tanks. The adhesive is easily applied by mix-metering equipment and retains bead/rope shape when applied. The product is non-sagging on vertical surfaces. Distinct coloration of each component aids identification and mixing control. Approved by G.T.T. to the Technigaz GNL STO 1004, MH 1004 and M3004 specifications.

Features

- Highly thixotropic mastic
- Color coded for easy identification and mixing
- Easy to mix and apply by machine
- Very good compressive creep resistance

Typical Properties*

Property	AV 4076-1	HV 5309-1	Mixed System
Appearance	Red paste	White paste	Pink paste
Density, g/cm ³	1.6-1.7	1.22-1.32	1.41-1.51
Viscosity at 25°C, cP	174-270 Pa-s	148-250 Pa-s	Highly Thixotropic

*Properties are based on Huntsman test methods. Copies are available upon request

Processing

Mix Ratio

Product	Parts by weight	Parts by volume
XF 536 M-1	100	100
XF 537-1	80	104
Tolerance	+/- 10% of hardener addition	

Application

The two components are highly thixotropic. There is no variation of the thixotropy between 5°C and 35°C. XF 536 M-1/XF 537-1 is extrudable through automatic mix metering equipment.

- External temperature: between 8°C to 40°C.
- Substrate must be dry and at a temperature of >5°C.
- A material temperature of about 20°C is desirable at application.
- The two components should be stored 5 days before application in an environment at 20 - 25°C to allow the product temperature to equilibrate.

Cure requirements

Adhesive Temperature	Minimum time to achieve load bearing properties
30°C	13 hours
20°C	20 hours
15°C	36 hours
10°C	72 hours

Gel time (ASTM D2471)

Temperature	Gel	Peak Exotherm
10°C	3 hours	26°C
23°C	150 minutes	31°C ± 5°C
40°C	70 minutes	52°C ± 5°C

Open working time

Temperature	Time
10°C	2 hours
23°C	1 hour
40°C	50 minutes

Sag Flow Test ASTM D2730: at 35C: channel 6, 3 to 4mm

Typical Physical Properties

Unless otherwise stated, the data were determined with typical production batches using standard test methods. They are typical values only, and do not constitute a product specification.

Mechanical Properties

Property	Test Method	Value at 23°C	Value at -25°C
Tensile strength, N/mm ²	ISO 527	25.8	33.3
Tensile modulus, N/mm ²	ISO 527	2.05	1.02
Elongation at limit of elasticity, %	ISO 527	3,992	2,877
Compressive Strength, N/mm ²	ISO 4587	36.8	76.8
Modulus, N/mm ²	ISO 4587	1,770	3,180

Creep Properties, 23°C, 1.2MPa load, sample 40x40x40mm

Time under load, hours	%
0	0.05
1	0.07
10	0.09
100	0.15
1,000	0.22
10,000	0.55

Coefficient of thermal contraction (between -30°C to 50°C): $45-56 \times 10^{-6} \text{ K}^{-1}$

Note: the system XF536 M1/XF537-1 when used in the same conditions of mixture, is identical to XF536/XF537 in characteristics. The changing of the name of the two components is the result of redistribution of the thixotropic agents between the two components, whilst maintaining the same overall composition when mixed.

Storage

XF 536 M-1 / XF 537-1 Structural Adhesive should be stored in a dry place, in the original sealed containers, at temperatures between 2°C and 40°C (36°F and 104°F). Under these storage conditions, the product has a shelf life of **3 years** (from date of manufacture). The product should not be exposed to direct sunlight.

Precautionary Statement

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First Aid!

Refer to SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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