STEELSTOP EPOXY AIRLESS S.F. 1100

Two component solvent free and high build epoxy paint

NATURE AND USE

Steelstop Epoxy Airless S.F. 1100 is a two component solvent free epoxy coating studied to give steel substrates a protection (barrier action) from corrosion. Its solvent free formulation, allows safe application in closed areas or where flammable vapours have to be avoided and it is particularly suggested for the maintenance or for new off-shore structures. The product can be externally applied at a dry film thickness of 1500 - 2000 µm dry (DFT) on pipes, elbows, valves, special pieces, tanks for underground installation, into sea water or for splash zone exercise, etc..

Its particular consistency allows the application at lower pressure than normally used for this type of products, reducing air entrapment inside the film.

Steelstop Epoxy Airless S.F. 1100 has a very low permeability to water and a good resistance to the cathodic disbonding, for these reasons the product is specially used for application in submarine environment (sea-lines, etc …). The coating guarantees good mechanical resistance to abrasion, to impact and good chemical resistance even in industrial aggressive environments.

Note : Like all materials of the same nature and type also Steelstop Epoxy Airless S.F. 1100 polymerized film, when exposed in air in external ambient , due to the action of atmospheric agents (sun, rain etcetera) may undergo colour changing with chalking and tarnishing. These phenomena are only aesthetic ones and do not indicate a loss of the corrosion protection property from the coating as the characteristic of the film is not altered.

Product qualified SNAM in accordance with GASD C.09.05.10 specification
Complies with EN 10289
Qualified Eni in accordance with 20550.ENG.CPI.STD- App. A, H

GENERAL PROPERTIES

Steelstop Epoxy Airless S.F. 1100 is recommended as high thickness external protective coating on works for Underground installations or immersion in fresh water or seawater. Excellent chemical and mechanical resistances also in critical exercise conditions: the coating forms a hard and compact durable film, resistant to aggression of several chemical agents, such as solutions of Sulphur Acid (H2SO4 at 1% in water), caustic soda (NaOH at 1% in water), brackish water (tested up to 35% of NaCl in water), lubricating oil, diesel oil, fuel, sewage waters (industrial water and water drain).

Contact our Technical Dept. for further information.

Note: Do not use in systems operating immerged in concentrated solutions of acids and alkali or solvents.

Principal typical characteristics of the correctly applied coating, full-cured (1500-2000 µm DFT)	**Reference Values**
Impact resistance @+23±2 °C (EN 10289)	≥ 5 J x K x mm (mm of coating thickness)
Impact resistance @ - 5±3 °C (EN 10289)	≥ 3 J x K x mm (mm of coating thickness)
Adhesion test Resistance to removal @+23±2 °C (EN 10289)	≤ rating 2
Adhesion test Pull-Off method @+23±2 °C (EN 10289)	≥ 7MPa
Cathodic disbondment 28 days @+23±2 °C (EN 10289)	Average radius ≤ 6 mm Max. radius ≤ 8 mm
Cathodic disbondment 2 days @+60±2 °C (EN 10289)	Average radius ≤ 6 mm Max. radius ≤ 8 mm
Specific electrical insulation test 100 days @+23±2 °C (EN 10289)	RS 100 day/RS 70day ≥ 0,8
Indentation Resistance @+23±2 °C (EN 10289)	≤ 0,2 mm

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Principal typical characteristics of the correctly applied coating, full-cured (1500-2000 µm DFT)	Reference Values
Service temperatures (EN 10289)	From - 20 °C to +80 °C
Max. temperature resistance	+90 °C in atmosphere (continuous)
	+100 °C in atmosphere (maximum discontinuous)
Water Absorption (ENI/Snam Rete Gas C. 09.05.10)	≤ 1%
Neutral salt spray test (ISO 9227) – 1000 hrs.	Passed
Taber Abraser (ASTM D 4060) – 1000 cycles with abrasive wheels CS-17 and 1000 g applied load	≤ 60 mg

TECHNICAL DATA

Specific Gravity A+B	Kg/l	1,50 ± 0,05 @ +20°C
Solids by Weight and Volume:	%	100 ± - 2 % A+B
Mixing Ratio by Weight:		70 parts of Base / 30 parts of Hardener
Mixing Ratio by Volume:		70 parts of Base / 30 parts of Hardener
****Pot life @ +20°C:**		≥ 90 minutes @ +20°C
Colour:		Green, other colours on request

SUBSTRATE PREPARATION

All kind of substrates: Degreasing and decontamination. After roughening and a thorough dusting, verify that substrates to be coated are always perfectly free from humidity.

Steel: Sandblasting to SA 2,5 minimum, according to ISO 8501-1 with medium roughness profile Rz DIN 60– 80 µm.

PRODUCT PREPARATION

Homogenize separately Base and Hardener in their own supply container. Mix the Base and the Hardener in the right proportions stirring enough to obtain an homogeneous green coloured mix, then pour each component in the tank of the bi-mixer equipment.

** The "POT LIFE" time of two components products (time within which it is possible to apply the paint mix of Base and Hardener), is exponentially dropped by the increase of product temperature.
Note: The use of a mix of paint (Base + Hardener) over the POT LIFE time is irreparably compromising all the properties of the coating film.**

APPLICATION DETAILS ***

Application method: Dual Feed Hot Airless Spray for two component with compression ratio 60:1 minimum
Standard Airless Spray with Compression ratio 68:1 minimum

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NB : The required thickness is reached in many coats application, without waiting the previous coat hardens: the operator must go all around the item continuously spraying until the required wet thickness (WFT), increased of about 10%, is reached.

Nozzle diameter (Indicative):		0,018 ÷0.031 inches (mm 0,45 – mm 0,79)
Nozzle pressure:		250 – 360 Kg/cm²
Thinning:		Do not Thin
Cleaning:		Epothinner
Hardening @ +25°C:		Touch dry 4 / 6 hours Through dry: 24-36 hours Full cure 7-10 days
Application Ambient Temperature:		Between +5°C ÷ +35°C
Temperature of the product:		+30°C/+60°C (Base + Hardener)
Temperature of the substrate:		+5 / +40°C and always at least +3/5°C above dew point
Humidity:		≤ 85%
Typical dry film thickness:		1500 - 1700 µm dry (DFT) Min. 500-800 µm / Max. 2000 µm DFT
Theoretical spreading rate:	sqm/Kg	0,7 at a dry film thickness of 1000 µm (DFT)

*** Further details in the enclosure

More info by writing to sales@industriebrunostoppanipaints.com or by calling +39 030 9745116

HANDLING STORAGE AND SAFETY PRECAUTIONS

Warning: All handling and/or use activities of the material and its components must strictly refer to the given indications in the Safety Data Sheet (Base and Hardener). The following advices are stated by common sense and in good faith, they are uncompleted and do not substitute the content of each specific safety data sheet of the product.

Handling: The material must be used only by professional and qualified applicators suitably trained. All the operations involving the use of the product, must be carried on in compliance with all the relevant National Health, Safety & Environmental standards and regulations.

Precautions: When the product is used in enclosed areas (rooms, containers, vessels, etc.) it is imperative to use adequate means providing the necessary air circulation, to be granted during the whole application and coating polymerization time, also to avoid conditions open to potential explosion danger.
All electrical installations must always be grounded. Where explosion hazards exist, the workmen should be required to use only non-ferrous tools and wear conductive non-sparking shoes and clothing. Explosion and flame-proof equipment too are required.

Storage and transport: Keep far from flames, sparks or heat sources. Do not leave exposed under direct solar action. Store under shelter in original unopened packaging, in cool, dry and ventilated areas, at temperatures between +5°C and +35°C.

Shelf life: **Base** **12 months** in the suggested storage conditions (original unopened packaging)
Hardener **12 months** in the suggested storage conditions (original unopened packaging)

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COMPLEMENTARY INFORMATIONS

General recommendations for the use of the product STEELSTOP EPOXY AIR S.F. 1100 for application on steel substrates

- Make sure the substrate is perfectly clean, degreased and contaminants free, dry and dehumidified
- Sandblast the substrate according to ISO 8501/1 minimum SA 2,5 for steel (better SA 3). Suggested roughness profile: minimum Rz Din 60 µm and max 100 µm according to ISO 8503 (…parameter to check more than one time, during the normal work shift).
- Thoroughly remove the dust from the substrate using dehumidified dry compressed air.
- At the end of the cleaning and preparation operations, check with appropriate instruments that the substrate is completely dry and apply the product immediately.
- Do not exceed 4 hours from preparation of the substrate to apply the product (R.H ≤85%). Repeat the previous sandblasting and cleaning operations if the time is exceeded.
- For application of the product, use a hot twin-feed Bi-mixer apparatus (minimum compression ratio 60:1). Before using the product, verify that the automatic cleaning of the spray equipment is fully operating. The cleaning operation of the apparatus must be done any time the application is stopped or suspended as well as in all the situations recommended by the manufacturer of the Bi-mixer equipment.
- Considered the high viscosity of the two coating components, as far as the output of the components from the conditioning drum is concerned, we suggest the use of a follower plate pump (when not available use suitable rate and power pump, preheating as necessary each component in the original supply drum, but without exceeding the temperature of +60/+70°C and avoiding too localized heating).
- Check and practically verify, before spraying the coating, that the correct mixing ratio of Base and of Hardener are complied with (better to check by weight):

Mixing Ratio STEELSTOP EPOXY AIRLESS S.F.1100

By weight	**Base 70pp**	**Hardener**	**30pp**
By volume	Base 70p	Hardener	30p

Maximum Tolerance (allowance) allowed in errors: 5%
calculated on the correct mixing ratio of base and hardener.

- Check during coating application the mixing ratio is not affected by changes.
- Verify that the temperature of the substrate is always minimum +3/+5°C above the dew point.
- The components of Steelstop Epoxy Airless S.F. 1100 do not need thinning and can be pre-heated at temperatures of +40 / +70°C for the Base and +30 / + 60°C for the Hardener
- The suggested thinner for tools cleaning is our type EPOTHINNER or other specific thinner for Epoxy products.

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- Steelstop Epoxy Airless S.F. 1100, can be handled at ambient temperature of +25°C after air drying of at least 24/36 hours (and in any case when the minimum surface hardness checked by means of a "Shore D" durometer reaches at least 65 ±3 points). After the application of Steelstop Airless S.F. 1100 the item must be protected from water action for at least 24 hours and must not be buried or water immersed until it has reached a hardness of Shore D 82 ± 3 (72-96 hours @ +25 °C).
  Lower curing temperature or shorter time , as well as the presence in the air of a higher percentage of Relative Humidity, are all events causing a quicker phenomenon of fading, flatting and whitening of the surface film of the coating (phenomenon which is typical of all epoxy products, but which is not index of a lower corrosion protection of the coating film).

  We draw your attention also on the recommendations of the Technical Data Sheet.
  Contact our Technical Department for further information.

N.B.: **Product for professional use only**
and exclusively for the uses not regulated under CE Directive 2004/42/CE.

Refer to Material Safety Data Sheet

Access catalogues, data sheets and company presentations

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