Title	PAINTING PROCEDURE
Project	
Revision	00

1. Purpose

This work-instruction is applicable whenever epoxy primer and final standard coating is required on bare compressor and compressor packages. It regards carbon steel and cast iron frame, piping and equipment surfaces only. See below for further detail.

2. Definitions

Not applicable

3. Performers

All thereto appoint operators, which had the related 'on the job training'.

4. Instructions and criteria's

4.1. Surface preparation:

All equipment which needs to be painted will be cleaned as follows:

Thoroughly degreasing of all surfaces by use of Benzine D and air pressurized pistol.
Removing all discontinuities (e.g. weld spatters) by chipping and by grit blasting.
Grit blasting according SA 2 ½" where applicable.
Drying all surfaces by blowing air with an air pressurized pistol.
All surfaces will be clean and free from any contamination before the painting action will be proceeded.
Protect all openings, flange facings, identification plates, stem threads etc... by use of proper protection material.

4.2. Painting:

Check thoroughly for cleanliness of all surfaces and protection of all area's which need not to be painted, before proceeding.

Painting shall be done after hydro-test.

The paint will be applied by means of a manual spray pistol with an opening between 1.2 - 1.5 mm.
The spray pressure will be between 3 - 5 barA.

The paint action will be performed with a smooth horizontal or vertical movement of the spray pistol.
The distance between spray pistol and equipment will be ± 40 cm.
Painting shall be done indoors. The air temperature will be 5 – 40deg.C.
The relative humidity will be 50 – 80%.
All steel temperatures will be at least 3deg.C above dew point of the surrounding air.

Items not to be painted:

1) Stainless steel surfaces
2) Aluminium surfaces (except caps)
3) Name- and tag plates
4) Levers
5) Galvanized surfaces
6) Visual wiring
7) Coupling covers
8) Insulation
9) Stem threads
10) Flange facings
11) SS Valve body, stem, handle, Actuators

Items painted to Manufacturer Standard:

1) Electric Motors
2) Instruments
3) Heaters
4) PLC panel
5) Compressor and oil pump

Following coats will be applied on all other surfaces:

1st Coat : Hempadur Fast Dry 15560 Or Equivalent
2 component zink fosfate HB primer
Layer thickness: min. 75 µm DFT

2nd Coat: Hempadur 15570 Or Equivalent
2 component epoxy primer,
Layer thickness: min. 75 µm DFT

Final Coat : Hempathane HS 55610 Or Equivalent
Top coat is a high build 2 component acrylic polyurethane finish.
Layer thickness: min. 75 µm DFT

Dilution: as specified in the final coating technical documentation
Remover: BENZINE D or other appropriate remover
Drying time: as specified in the final coating technical documentation
Hardness: as specified in the final coating technical documentation

Final dry film thickness will be min. 225 µm

4.3. Colors:

Process and utility piping Pressure vessels, heat exchanger	RAL 7038
Compressors, Pumps	RAL 7038
Motors	RAL5015
Safety valves	RAL 7038
Base frame and external steel work	RAL 7038
Ladders, stages & supports	RAL 9016
Local panel, Junction boxes	N.A

5. Registration

After cleaning following requirements shall be met:
- All surfaces will be visually clean and free from any contamination.

Before painting:
- Ambient conditions (impression).
- Steel condition (impression).

After painting following requirements shall be met:
- Uniform consistency of paint
- No paint gutters allowed
- No blank material visible
- No foreign materials in paint

After painting a visual inspection according the above requirements and a thickness measurement will be performed.
All results will be recorded on an inspection report and filed within the relevant job order file.

All above mentioned coats (DFT) will be measured by the use of the coating thickness gauge ELCOMETER 345 or other appropriate equipment. Perform a measurement at 20 different spots of the equipment.
All readings must be within the tolerances.

Inspection report: thickness of all layers must be within the tolerances. Registration in report MF/10/Q009

6. Appendix

Selected coating technical documentation – Hempadur Fast Dry 15560, Hempadur 15570, Hempathane HS 55610 or Equivalent which is subjected to client confirmation.

Product Data

HEMPADUR FAST DRY 15560

15560: BASE 15569 : CURING AGENT 97560

Description: HEMPADUR FAST DRY 15560 is a two-component epoxy paint with a very short drying time. Contains zinc phosphate.

Recommended use: As a quick drying primer or intermediate coat in HEMPADUR systems for especially fast recoatable in-shop applications.
Can be used for on-site work too if eg VOC compliance is requested.

Service temperature: Maximum, dry exposure only: 140°C/284°F

Certificates/Approvals: Complies with EU Directive 2004/42/EC: subcategory j.

Availability: Part of Group Assortment. Local availability subject to confirmation.

PHYSICAL CONSTANTS:

Shade nos/Colours:	12170* / Grey. see REMARKS overleaf.
Finish:	Flat
Volume solids, %:	62 ± 1
Theoretical spreading rate:	6.2 m^2/l [248.6 sq.ft./US gallon] - 100 micron/4 mils
Flash point:	27 °C [80.6 °F]
Specific gravity:	1.4 kg/litre [12 lbs/US gallon]
Surface dry:	0.5 approx. hour(s) 20°C/68°F
Dry to touch:	1 - 1.5 hour(s) 20°C/68°F
Fully cured:	7 day(s) 20°C/68°F
VOC content:	351 g/l [2.9 lbs/US gallon]

**other shades according to assortment list.*

The physical constants stated are nominal data according to the HEMPEL Group's approved formulas.

APPLICATION DETAILS:

Version; mixed product:	**15560**
Mixing ratio:	BASE 15569 : CURING AGENT 97560 4 : 1 By volume
Application method:	Airless spray / Air spray / Brush
Thinner (max.vol.):	08450 (5%) / 08450 (15%) / 08450 (5%)
Pot life:	2 hour(s) 20°C/68°F
Nozzle orifice:	0.019 - 0.021 "
Nozzle pressure:	175 bar [2537.5 psi] (Airless spray data are indicative and subject to adjustment)
Cleaning of tools:	HEMPEL'S TOOL CLEANER 99610
Indicated film thickness, dry:	100 micron [4 mils] see REMARKS overleaf.
Indicated film thickness, wet:	175 micron [7 mils]
Recoat interval, min:	According to specification.
Recoat interval, max:	According to specification.

Safety: Handle with care. Before and during use, observe all safety labels on packaging and paint containers, consult HEMPEL Safety Data Sheets and follow all local or national safety regulations.

15570: BASE 15579: CURING AGENT 95570

Description: HEMPADUR 15570 is a two component, polyamide-adduct cured epoxy paint, which cures to a strong and highly corrosion resistant coating, at temperatures down to -10°C/14°F. The Micaceous Iron Oxide pigmented reddish grey 12430 shade is also well suited for application under humid conditions, on damp steel surfaces, and may be applied on moist surfaces. The greyish yellow 21780 and the grey 11320 shades contains zinc phosphate.

Recommended use: As a maintenance and repair primer, intermediate, and/or finishing coat in HEMPADUR systems in severely corrosive environment. As a finishing coat where a cosmetic appearance is of less importance. As a low temperature curing epoxy primer, intermediate, and/or finishing coat in paint systems according to specification. Well suited as a (blast) primer in epoxy systems.
Mist coat on GALVOSIL.

Service temperature: Maximum, dry exposure only: 140°C/284°F
Ballast water service. Resists normal ambient temperatures at sea (Avoid long-term exposure to negative temperature gradients).
Other liquids: Contact HEMPEL

Certificates/Approvals: Complies with European Fire Standard EN 13501-1; classification B-s1, d0.
Approved as a low flame spread material when used as part of a predefined paint system. Please refer to “Declaration of Conformity” on www.Hempel.com for further details.
Complies with EU Directive 2004/42/EC:subcategory j. (see REMARKS overleaf)

Availability: Part of Group Assortment. Local availability subject to confirmation.

PHYSICAL CONSTANTS:

Shade nos/Colours:	12430 (MIO)* / Reddish grey
Finish:	Flat
Volume solids, %:	54 ± 1
Theoretical spreading rate:	5.4 m^2/l [216.5 sq.ft./US gallon] - 100 micron/4 mils
Flash point:	25 °C [77 °F]
Specific gravity:	1.4 kg/litre [11.6 lbs/US gallon]
Surface-dry:	1 hour(s) 20°C/68°F
Through-dry:	5 hour(s) 20°C/68°F
Fully cured:	7 day(s) 20°C/68°F
VOC content:	414 g/l [3.4 lbs/US gallon]
Shelf life:	3 years for BASE and 3 years (25°C/77°F) for CURING AGENT from time of production.

**other shades according to assortment list.*

The physical constants stated are nominal data according to the HEMPEL Group's approved formulas.

APPLICATION DETAILS:

Version, mixed product:	**15570**
Mixing ratio:	BASE 15579: CURING AGENT 95570 3 : 1 by volume
Application method:	Airless spray / Air spray / Brush
Thinner (max.vol.):	08450 (5%) / 08450 (15%) / 08450 (5%)
Pot life:	2 hour(s) 20°C/68°F
Nozzle orifice:	0.019 - 0.021 "
Nozzle pressure:	175 bar [2537.5 psi] (Airless spray data are indicative and subject to adjustment)
Cleaning of tools:	HEMPEL'S TOOL CLEANER 99610
Indicated film thickness, dry:	100 micron [4 mils] see REMARKS overleaf
Indicated film thickness, wet:	200 micron [8 mils]
Overcoat interval, min:	see REMARKS overleaf
Overcoat interval, max:	see REMARKS overleaf

Safety: Handle with care. Before and during use, observe all safety labels on packaging and paint containers, consult HEMPEL Safety Data Sheets and follow all local or national safety regulations.