Application Instructions
HEMPADUR AvantGuard 550
1734G: BASE 1734U WITH CURING AGENT 97043/
HEMPADUR AvantGuard 750
1736G: BASE 1736U WITH CURING AGENT 97043/
HEMPADUR AvantGuard 770
17382: BASE 17388 WITH CURING AGENT 98384/
Hempadur Avantguard 860
17990: BASE 17999 with CURING AGENT 98384

For product description, refer to product data sheet HEMPADUR AvantGuard 550 / HEMPADUR AvantGuard 750 / HEMPADUR AvantGuard 770 / Hempadur Avantguard 860

Scope:

These Application Instructions cover surface preparation, application equipment and application details for HEMPADUR AvantGuard 550, HEMPADUR AvantGuard 750, HEMPADUR AvantGuard 770.and HEMPADUR AvantGuard 860

Steel work (PSPC):

The steel shall preferably be Rust Grade A or B according to ISO 8501-1. The use of steel with Rust Grade C requires tighter inspection of surface profile after blasting as well as of possible salt contamination.

The steel surface shall be thoroughly prepared so that the coating achieves an even distribution at the specified nominal dry film thickness of 50 - 100 micron (please refer to the specifications) and has adequate adhesion. The final steel condition including welds and edges shall conform to preparation grade P2, ISO 8501-3: “Preparation of steel substrates before application of paints and related products - Visual assessment of surface cleanliness”.

Surface preparation:

General: In order to obtain best performance, abrasive blast cleaning is recommended.

Abrasive blasting/abrasive sweep blasting: Before blasting any deposits of grease or oil must be removed from the steel surface with a suitable detergent followed by high pressure fresh water cleaning. Minor spots of oil/grease may be cleaned with thinner and clean rags - avoid smearing out the contamination. Possible alkali weld deposits, chemicals used for testing of welds, soap residues from the pressure testing must be removed by fresh water hosing. Abrasive blasting to Sa 2½ (ISO 8501-1:2007) with a sharp-edged surface profile corresponding to Rugotest No. 3, BN10a-b, Keane-Tator Comparator, 2.0 G/S, 2 S, or ISO Comparator, Medium (G).

Spot-repairs: Clean damaged areas thoroughly by power tool cleaning to minimum St 3 or by abrasive blasting to minimum Sa 2, preferably Sa 2½. As an alternative, water jetting to minimum Wa 2 (ISO 8501-4:2006) may be used or according to specification. A flash rust degree of maximum M (atmospheric exposure) (ISO 8501-4:2006) is acceptable before application. Feather edges to sound and intact areas. Brush off loose material. Touch up to full film thickness.

As for all primers improved surface preparation will improve the performance of HEMPADUR AvantGuard 550, HEMPADUR AvantGuard 750 HEMPADUR AvantGuard 770.and HEMPADUR AvantGuard 860.

Compatibility: HEMPADUR AvantGuard 550, HEMPADUR AvantGuard 750 and HEMPADUR AvantGuard 770 may be used in connection with other generic paint systems. Contact HEMPEL for further information.

Application equipment:

Recommended airless spray equipment:

Pump ratio:	min 45:1
Pump output:	12 litres/minute (theoretical)
Input pressure:	min. 6 bar/90 psi
Spray hoses:	max. 100 metres/300 feet, ½” internal diameter max. 30 metres/100 feet, 3/8" internal diameter max. 6 metres/20 feet, 1/4" internal diameter
Filter:	minimum mesh size 250 µm/ 10 mil

Regular surfaces:	Complicated surfaces (and touch up):
Nozzle size: .017"-.021”	Nozzle size: .017"-.021”
Fan angle: 60°	Fan angle: 40°

After finishing the application, clean the equipment immediately with HEMPEL'S TOOL CLEANER 99610.

Note: Increasing hose diameter may ease paint flow thereby improving the spray fan. If longer hoses are necessary it may be necessary to raise the pump ratio to 60:1, maintaining the high output capacity of the pump.
Alternatively up to approximately 5-10% THINNER 08450 may be added, but thinning must be done with care as the maximum obtainable film thickness is reduced significantly by over-thinning.

Spray application:

Film-build/continuity: With this paint material applied in one coat a continuous, pinhole-free paint film should be obtained. An application technique which will ensure good film formation on **all** surfaces should be adopted. It is very important to use nozzles of the correct size, not too big, and to have a proper, uniform distance of the spray gun to the surface, 30-50 cm should be aimed at. Furthermore, great care must be taken to cover edges, openings, rear sides of stiffeners etc. Thus, on these areas application of a stripe coat will therefore be good painting practice. To obtain good and steady atomizing, the viscosity of the paint must be suitable and the spray equipment must be sufficient in output pressure and capacity. At high working temperatures, use of extra thinner may be necessary to avoid dust-spray.

The paint layer must be applied homogeneously and close to the specification, even though this product has high tolerance to high dry film thickness.

The finished coating must appear as a homogeneous film and irregularities such as dust, dry spray, abrasives, should be remedied.

Pot life:

Pot life is dependent on temperature – please refer to the tables below for pot life data for a 10 litre mix.

For HEMPADUR AvantGuard 550 1734G

Temperature	-10°C/14°F	0°C/32°F	10°C/50°F	20°C/68°F	30°C/86°F	40°C/104°F
Pot life	8 h	6 h	5.5 h	3 h	1 h	1 h

h = hour(s)

For HEMPADUR AvantGuard 750 1736G

Temperature	-10°C/14°F	0°C/32°F	10°C/50°F	20°C/68°F	30°C/86°F	40°C/104°F
Pot life	8 h	5 h	5 h	4 h	3 h	1.5 h

h = hour(s)

For HEMPADUR AvantGuard 770 17382

Temperature	-10°C/14°F	0°C/32°F	10°C/50°F	20°C/68°F	30°C/86°F	40°C/104°F
Pot life	8 h	7 h	7 h	7 h	6 h	5 h

h = hour(s)

For Hempadur Avantguard 860 17990

Temperature	-10°C/14°F	0°C/32°F	10°C/50°F	20°C/68°F	30°C/86°F	40°C/104°F
Pot life	8 h	7 h	7 h	6 h	6 h	5 h

h = hour(s

Drying times*:

For HEMPADUR AvantGuard 550 1734G (60 micron / 2.4 mils)

Temperature	-10°C/14°F	0°C/32°F	10°C/50°F	20°C/68°F	30°C/86°F	40°C/104°F
Surface dry	50 m	30 m	10 m	10 m	10 m	5 m
Through dry	21 h	6 h	3.5 h	1.5 h	1 h	0.5 h

m = minute(s), h = hour(s)

For HEMPADUR AvantGuard 750 1736G (60 micron / 2.4 mils)

Temperature	-10°C/14°F	0°C/32°F	10°C/50°F	20°C/68°F	30°C/86°F	40°C/104°F
Surface dry	50 m	30 m	10 m	10 m	10 m	5 m
Through dry	21 h	5 h	3.5 h	1.5 h	1 h	0.5 h

m = minute(s), h = hour(s)

For HEMPADUR AvantGuard 770 17382 (60 micron / 2.4 mils)

Temperature	-10°C/14°F	0°C/32°F	10°C/50°F	20°C/68°F	30°C/86°F	40°C/104°F
Surface dry	90 m	60 m	30 m	10 m	10 m	5 m
Through dry	51 h	9 h	6 h	3 h	2 h	1 h

m = minute(s), h = hour(s)

For Hempadur Avantguard 860 17990 (60 micron / 2.4 mils)

Temperature	-10°C/14°F	0°C/32°F	10°C/50°F	20°C/68°F	30°C/86°F	40°C/104°F
Surface dry	150 m	60 m	30 m	15 m	10 m	5 m
Through dry	18 h	8 h	4 h	3 h	2 h	1 h

m = minute(s), h = hour(s)

** Drying times vary with film thickness.*

Overcoating interval: HEMPADUR AvantGuard 550 1734G (60 micron /2.4 mils):

Environment	**Surface temperature**											
	-10°C/14°F		**0°C/32°F**		**10°C/50°F**		**20°C/68°F**		**30°C/86°F**		**40°C/104°F**	
	Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Overcoating with HEMPADUR												
Mild	4 h	Ext.*	2 h	Ext.*	1.5 h	Ext.*	1 h	Ext.*	45 m	Ext.*	30 m	Ext.*
Medium	4 h	Ext.*	2 h	Ext.*	1.5 h	Ext.*	1 h	Ext.*	45 m	Ext.*	30 m	Ext.*
Severe	4 h	56 d	2 h	42 d	1.5 h	28 d	1 h	14 d	45 m	7 d	30 m	3 d
Overcoating with HEMPATHANE												
Mild	4 h	90 d	2 h	90 d	1.5 h	60 d	1 h	30 d	45 m	14 d	30 m	7 d
Medium	4 h	56 d	2 h	42 d	1.5 h	28 d	1 h	14 d	45 m	7 d	30 m	3 d
Severe	4 h	20 d	2 h	15 d	1.5 h	10 d	1 h	5 d	45 m	2.5 d	30 m	1 d

d = day(s); m = minute(s), h = hour(s)

***Depending on actual local conditions, the long maximum overcoating intervals may vary. Contact HEMPEL for more information.**

HEMPADUR AvantGuard 750 1736G (60 micron /2.4 mils):

Environment	**Surface temperature**											
	-10°C/14°F		**0°C/32°F**		**10°C/50°F**		**20°C/68°F**		**30°C/86°F**		**40°C/104°F**	
	Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Overcoating with HEMPADUR												
Mild	4 h	Ext.*	2 h	Ext.*	1.5 h	Ext.*	1 h	Ext.*	45 m	Ext.*	30 m	Ext.*
Medium	4 h	Ext.*	2 h	Ext.*	1.5 h	Ext.*	1 h	Ext.*	45 m	Ext.*	30 m	Ext.*

Severe	4 h	90 d	2 h	90 d	1.5 h	60 d	1 h	30 d	45 m	14 d	30 m	7 d
Overcoating with HEMPATHANE												
Mild	4 h	90 d	2 h	90 d	1.5 h	60 d	1 h	30 d	45 m	14 d	30 m	7 d
Medium	4 h	56 d	2 h	42 d	1.5 h	28 d	1 h	14 d	45 m	7 d	30 m	3 d
Severe	4 h	20 d	2 h	15 d	1.5 h	10 d	1 h	5 d	45 m	2.5 d	30 m	1 d

d = day(s); m = minute(s), h = hour(s)

***Depending on actual local conditions, the long maximum overcoating intervals may vary. Contact HEMPEL for more information.**

HEMPADUR AvantGuard 770 17382 (60 micron /2.4 mils):

Environment	**Surface temperature**											
	-10°C/14°F		**0°C/32°F**		**10°C/50°F**		**20°C/68°F**		**30°C/86°F**		**40°C/104°F**	
	Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Overcoating with HEMPADUR												
Mild	4 h	Ext.*	2 h	Ext.*	1.5 h	Ext.*	1 h	Ext.*	45 m	Ext.*	30 m	Ext.*
Medium	4 h	Ext.*	2 h	Ext.*	1.5 h	Ext.*	1 h	Ext.*	45 m	Ext.*	30 m	Ext.*
Severe	4 h	90 d	2 h	90 d	1.5 h	60 d	1 h	30 d	45 m	14 d	30 m	7 d

d = day(s); m = minute(s), h = hour(s)

Hempadur Avantguard 860 17990 (60 micron /2.4 mils):

Environment	**Surface temperature**											
	-10°C/14°F		**0°C/32°F**		**10°C/50°F**		**20°C/68°F**		**30°C/86°F**		**40°C/104°F**	
	Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Overcoating with HEMPADUR												
Mild	4 h	Ext.*	2 h	Ext.*	1.5 h	Ext.*	1 h	Ext.*	45 m	Ext.*	30 m	Ext.*
Medium	4 h	Ext.*	2 h	Ext.*	1.5 h	Ext.*	1 h	Ext.*	45 m	Ext.*	30 m	Ext.*
Severe	4 h	90 d	2 h	90 d	1.5 h	60 d	1 h	30 d	45 m	14 d	30 m	7 d

d = day(s); m = minute(s), h = hour(s)

***Depending on actual local conditions, the long maximum overcoating intervals may vary. Contact HEMPEL for more information.**

Maximum overcoating intervals:

If the maximum overcoating interval is exceeded, whatever the subsequent coat, roughening of the surface is necessary to ensure optimum intercoat adhesion or in the case of overcoating with coatings other than HEMPADUR, apply a (thin) additional coat of a HEMPADUR quality within the following directions for overcoating:

- **Long overcoating intervals:**
  A completely clean surface is mandatory to ensure intercoat adhesion, especially in the case of long overcoating intervals. Any dirt, oil and grease have to be removed with e.g. suitable detergent followed by high pressure fresh water cleaning. Salts are to be removed by fresh water hosing.

- **Any degraded surface layer, as a result of a long exposure period, must be removed as well**. Water jetting may be relevant to remove any degraded surface layer and may also replace the above-mentioned cleaning methods when properly executed. Consult HEMPEL for specific advice if in doubt.

Safety: Handle with care. Before and during use, observe all safety labels on packaging and paint containers, consult HEMPEL Material Safety Data Sheets and follow all local or national safety regulations. Avoid inhalation, avoid contact with skin and eyes, and do not swallow. Take precautions against possible risks of fire or explosions as well as protection of the environment. Apply only in well ventilated areas.

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These Application Instructions supersede those previously issued.
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