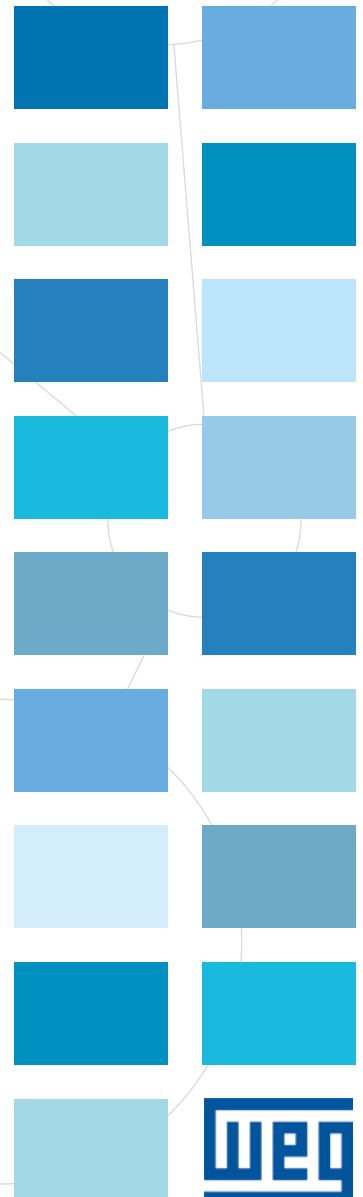


Coatings

Solutions for Transformers





Solutions for Transformers

WEG has a large experience in manufacturing of transformers and transmission equipments, and knows the importance of a quality coating. In order to serve this demanding market, WEG Coatings has developed high technology coatings and varnishes, ideal for application in all kinds of transformers.

The industrial system meets the strictest resistance and performance tests required by the industry.

Our products bear certifications of compliance with the requirements of ABNT Standards in addition to several homologations.

External Coating of Transformers and Radiators in Low-Aggressive Outdoor Environments

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
STARDUR DF 475	1	50" to 55"	35" to 40"	120	71 ±2	5,91
STARDUR TFD 475	1	25" to 30"	30" to 35"	75	71 ±2	9,5

STARDUR DF 475

PRODUCT DESCRIPTION: Double function aliphatic acrylic polyurethane that meets the cyclic tests of **ABNT Standard NBR 5440**. *It does not require primer, providing productivity gains.*

USE RECOMMENDATIONS: Used in distribution transformers, voltage regulator and medium power up to 10 MVA.

STARDUR TFD 475

PRODUCT DESCRIPTION: Primer two-component aliphatic acrylic polyurethane finish, high solids by volume and high yield. It has a fast drying at room temperature with excellent color retention and brightness, flexibility and hardness. Meets the standard NBR 5440.

USE RECOMMENDATIONS: Recommended for painting of transformers and radiators. Recommended for environments of low and medium aggressiveness.

External coating of transformer and radiator - according to environment C-3 of ISO 12944-2 Standard.

Environments type C-3 are those considered of medium aggressiveness, for example: urban and industrial atmosphere, moderate pollution with sulphur dioxide, areas on the coast with low salinity, production rooms with high humidity and some air pollution like food plants, laundries, breweries, dairy plants.

External coating of transformers and radiators - Outdoor (rural and urban) environments

Option 1 - Fast Drying

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m ² /L)
STARFLEX PR/HS 336	1	25" to 30"	32" to 35"	150	78 ±2	5,2
STARDUR TFD 475	1	25" to 30"	30" to 35"	75	71 ±2	9,5

STARFLEX PR/HS 336

PRODUCT DESCRIPTION: High solids polyamide epoxy primer with zinc phosphate anticorrosive pigments. Recommended for coating of transformers, radiators and other equipment in low and medium aggressive environments.

Option 2 - Greater Chemical and Anticorrosive Protection (1.000 hours in Salt Spray)

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m ² /L)
STARFLEX PR/HS 339	1	25" to 30"	32" to 35"	150	78 ±2	5,2
STARDUR DF 475	1	25" to 30"	30" to 35"	75	71 ±2	9,5

STARFLEX PR/HS 339

PRODUCT DESCRIPTION: High solids polyamide epoxy primer with zinc phosphate anticorrosive pigments. Excellent adhesion to carbon steel treated by abrasive blasting or blasted.

<< Coating schemes recommended in situations where it is difficult to obtain the layer of the STARDUR DF 475, especially over parts of complex geometry, such as covers, brackets and hooks. It is intended to prevent the appearance of premature corrosion spots.





External coating of transformer and radiators – according to environment C-5M of ISO 12944-2 Standard

Environments type C-5 are those considered highly aggressive, such as industrial areas with high humidity and aggressive atmospheres, and coast and offshore areas with high salinity. Examples are buildings or areas with almost permanent condensation and with high pollution.

Option 1

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
STARZINC EP 122	1	18" to 22"	25" to 30"	65	52	8,0
STARFLEX PR/HB 115	1	25" to 30"	28" to 30"	130	61 ± 2	4,70
STARDUR HB/HS 470	1	25" to 30"	30" to 35"	75	71 ± 2	9,5
STARDUR TFD 475						

STARZINC EP 122 N 1277

PRODUCT DESCRIPTION: Zinc pigmented epoxy primer, recommended for protection of carbon steel on equipment and structures in highly aggressive environments. Complies with **Petrobras N 1277 Standard**.

STARFLEX PR/HB 115

PRODUCT DESCRIPTION: Micaceous iron oxide pigmented epoxy primer/intermediate. Product with high resistance recommended as intermediate coatings for transformers, radiators and other industrial equipment.

Option 2 - Productivity Gains; The Use of Intermediate is not Necessary

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
STARFLEX EZM 120	1	18" to 22"	25" to 30"	140	68	4,85
STARDUR HB/HS 470		25" to 30"	30" to 35"	75	71 ± 2	9,5

STARFLEX EZM 120

PRODUCT DESCRIPTION: Zinc rich epoxy primer pigmented with micaceous iron oxide. It combines the protection of STARZINC EP 122 and STARFLEX PR/HB 115 in a single product **to provide greater agility in the coating process, eliminating the need to apply three coats.**

External Coating Tanks for Power Transformers - Aggressive Environments

For Coating with Guns

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
STARZINC EP 122 N 1277	1	-	35" to 40"	80	78 ± 2	9,75
STARFLEX PR/HB 339			30" to 35"			
STARDUR HB/HS 470		25" to 30"		75	71 ± 2	8,90
STARDUR TFD 475						

For Coating by Flooding

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
STARZINC EP 122 N 1277	1	18" to 22"	-	80	52	6,50
STARFLEX PR/HB 339		25" to 30"				
STARDUR HB/HS 470		-	30" to 35"	75	71 ± 2	9,5

External Coating with Standardized Products

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
LACKPOXI N 2630	1	20" to 30"	30" to 40"	100 - 160	81 ± 1	6,20
LACKPOXI N 2628	1	15" to 20"	20" to 24"	100 - 140	82 ± 2	6,8
LACKTHANE N 2677	1	20" to 30"	30" to 40"	70 - 100	65 ± 2	7,6

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
LACKPOXI N 1277	1	16" to 18"	16" to 20"	75 - 105	65 ± 2	7,2
LACKPOXI N 2630	1	20" to 30"	30" to 40"	100 - 160	81 ± 1	6,2
LACKTHANE N 2677	1	20" to 30"	30" to 40"	70 - 100	65 ± 2	7,6

LACKPOXI N 2630

PRODUCT DESCRIPTION: Two-component high solids high build polyamide epoxy primer with anticorrosive zinc phosphate pigmentation.

LACKTHANE N 2677

PRODUCT DESCRIPTION: Two-component, high solids high gloss aliphatic acrylic polyurethane topcoat. Product developed to compose an anticorrosive protection system with high Waterproofing power, chemical resistance and resistance to natural weathering.

LACKPOXI N 2628

PRODUCT DESCRIPTION: Two-component high solids high build epoxy topcoat cured with polyamide. Topcoat for anticorrosive protection in aggressive environments with high concentration of humidity and salt spray.

External Coating of Dry-Type Transformers

Option WEG

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
WEGTERM HPD 364	1	-	30" to 35"	100 - 150	72 ± 2	5,4

W-TERM HPD 364

PRODUCT DESCRIPTION: Two-component phenolic epoxy coating with excellent chemical and anticorrosive resistance that is maintained when used at high temperatures. Dry heat resistance up to 220°C.



Internal Coating of Transformer Tanks

Option 1

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
STARFLEX AC 277	1	-	22" to 23"	40	62 ± 2	16,25

Option 2

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	µm	VS%	TSR (m²/L)
WEGPOXI TFP 304	1	-	20" to 25"	40 - 50	46 ± 2%	9,8

STARLFEX AC 277

PRODUCT DESCRIPTION: Two-component amine adduct based coating. **It has very low elimination of gases when in contact with transformer oil.** Complies with **ABNT EB-2060 Standard (NBR 11388)**, and it is ideal for internal coating of transformer tanks.

W-POXI TFP 304

PRODUCT DESCRIPTION: Twocomponent polyamine epoxy primer with high anticorrosive protection, flexibility, hardness and excellent applicability. Recommended for internal coating of tanks of the electric transformer industry, where the application and drying processes are essential.

Internal Coating of Radiators

Option 1

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	μm	VS%	TSR (m ² /L)
STARSELF 354	1	15" to 18"	-	20	20 ± 2	10

Option 2

Product	Coats	Application Method - Viscosity CF # 4 to 25°C			Relevant Information	
		Flooding	Conventional Gun	μm	VS%	TSR (m ² /L)
STARDUR AC/SB 486	1	20" to 25"	35" to 40"	35	58 ± 2%	16

STARSELF 354

PRODUCT DESCRIPTION: Single component modified epoxy self-priming. Resistant to immersion heat up to 90°C continuous and 120°C discontinuous. It has excellent resistance to transformer oil. Easy application and fast drying to touch. It complies with **ABNT NBR 14274 Standard (resistant to radiator oil)**.

STARDUR AC/SB 486

PRODUCT DESCRIPTION: Acrylic/polyester polyurethane enamel catalyzed with aliphatic isocyanate. Excellent color and gloss retention, even under great sunlight exposure. High resistance to extreme chemical and environmental aggressive condition. Complies with **ABNT NBR 14274 Standard**.

External Coating with Water Based Products

Always concerned about sustainability issues, WEG Coatings follows the trend and commitment with Coatings Care® program to offer new solutions that provide protection and lower environmental impact. In this regard, WEG Coatings have developed innovative water based products for coating transformers.

Environment according ISO 12944-2 Standar	Primer Coating	Intermediate	Top Coat
C3	W-POXI HIDRO TFP 334	-	WEGTHANE HIDRO HPA 501
C4	W-POXI HIDRO RZP 335	W-POXI HIDRO TFP 334	WEGTHANE HIDRO HPA 501
C5	W-POXI HIDRO RZP 335	W-POXI HIDRO MCP 304	WEGTHANE HIDRO HPA 501

W-POXI HIDRO TFP 334

PRODUCT DESCRIPTION: Epoxy primer water-soluble two-component with anticorrosive phosphate pigmentation and rapid drying. It has excellent adhesion on carbon steel and primer.

W-POXI HIDRO RZP 335

PRODUCT DESCRIPTION: Epoxy primer water-soluble, zinc-rich two-component polyamide. The product provides corrosion protection to carbon steel through the galvanic action of the metallic zinc pigment. Recommended for urban and industrial environments of medium and high aggressiveness.

W-POXI HIDRO MCP 304

PRODUCT DESCRIPTION: Intermediate epoxy polyamine of high two-component thickness, pigmented with micaceous iron oxide. It offers good chemical resistance and high corrosion protection. It has excellent adhesion on primer based on zinc or epoxy. Recommended for urban and industrial environments of medium and high aggressiveness.

WEGTHANE HIDRO HPA 501

PRODUCT DESCRIPTION: Aliphatic, glossy, two-component, water-soluble acrylic polyurethane finishing paint. Product developed to compose a system of anticorrosive protection and resistance to natural weathering. The product promotes a high gloss film where strength and aesthetics are required. Combining the product with primer and / or epoxy intermediates provides a system of great durability.



Enamel Coating and Impregnation




WEG impregnation varnishes and resins are polyester or epoxy based products that offer excellent dielectric properties, flexibility, hardness, chemical resistance, adhesion and compatibility.

They are ideal for application in power transformers and distribution with Thermal Classes B, F and H for Low and High Voltage Transformers.



For more information, refer to the product technical bulletin or contact our technical department.

Varnishes for Transformers

Product	Characteristic	
LACKTHERM 1355	Impregnation varnish class F for oil transformers with oven curing	
LACKTHERM 1303	Impregnation varnish class B for small transformers (electronics industry) with air drying	
LACKTHERM 1351	Impregnation varnish FW grade for air-dried oil transformers	



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