

RESINS FOR POWDER COATINGS

CIECH SARZYNA

ABOUT US



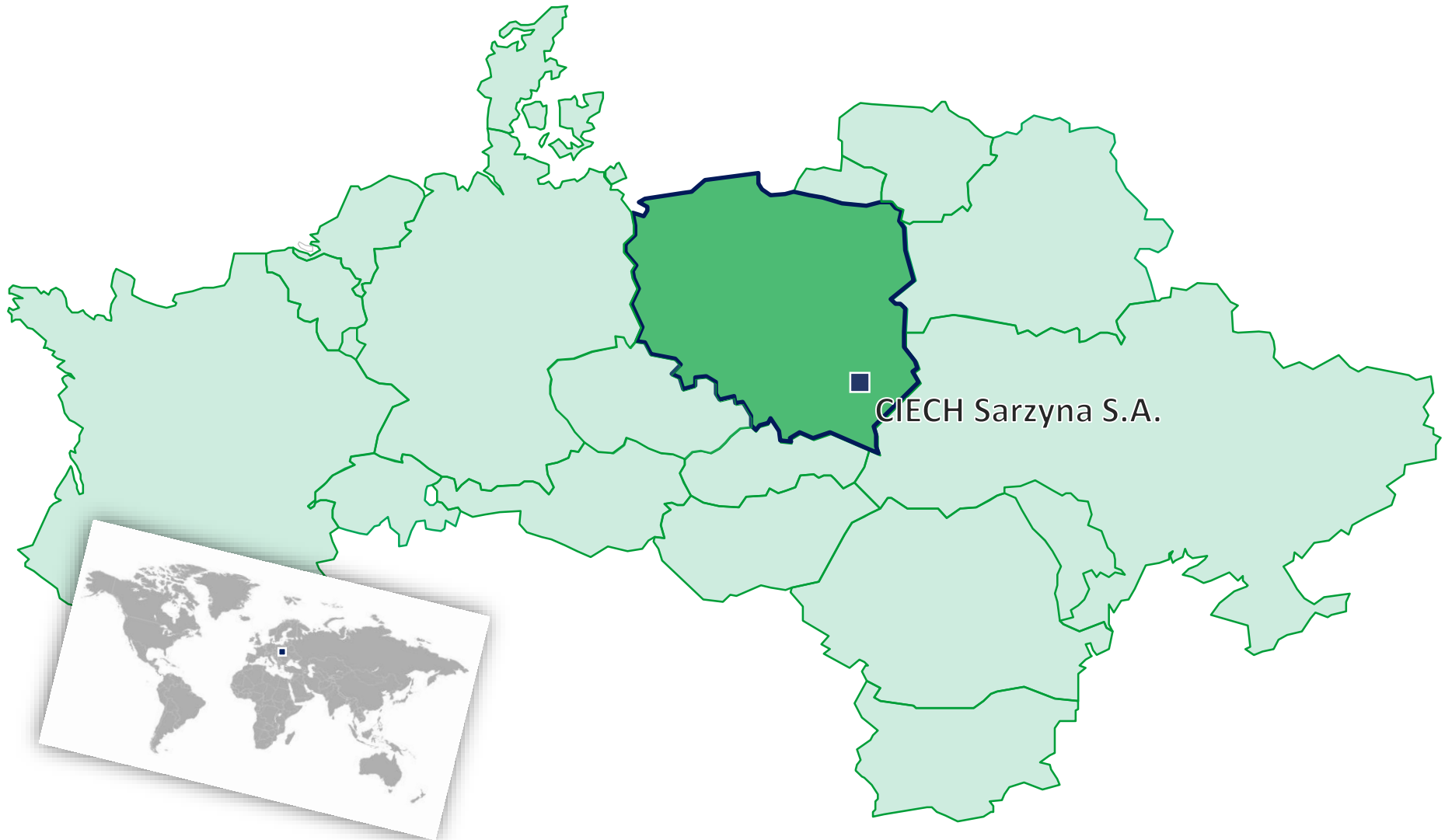
CIECH Sarzyna is a manufacturer of EPIDIAN® epoxy resins, POLIMAL® unsaturated polyester resins, gel coats and top coats, phenol-formaldehydes, and a wide range of hardeners. Moreover, epoxy resins and saturated polyester resins for powder coatings are one of the most important segments of our business.

The history of CIECH'S business dates back to 1937. Our products are present all over the world in at least 40 countries.

Our mission is to develop new technologies and to provide our clients with high quality products and services.

CIECH SARZYNA

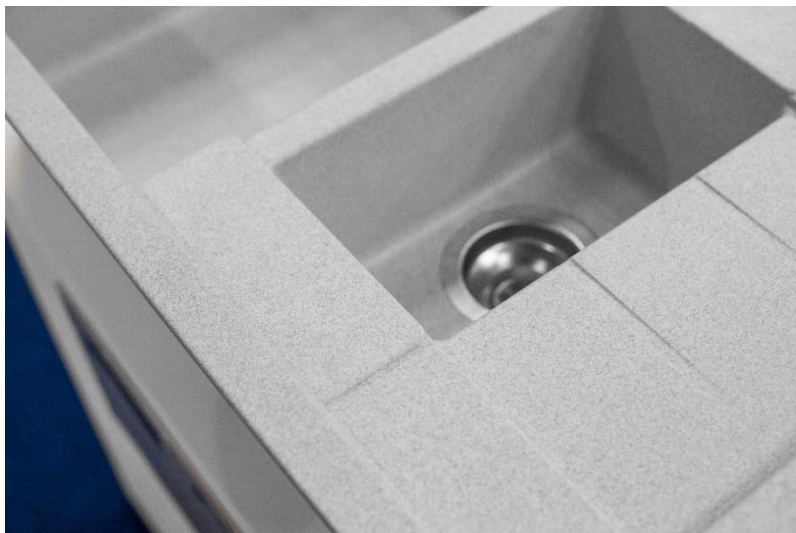
OUR LOCATION



CIECH SARZYNA

OUR MISSION IS TO UNDERSTAND YOUR NEEDS

... AND EXCEED YOUR EXPECTATIONS



HIGH QUALITY SOLUTIONS



HIGH END TECHNICAL SUPPORT

CIECH SARZYNA

PRODUCTION CAPACITY / YEAR

Production Installation	Capacity [tons/1000 l]
Unsaturated Polyester Resins	27 500
Basic Epoxy Resins	27 500
Phenol Formaldehyde Novolacs	1 000
Phenol Formaldehyde Resoles	1 760
Saturated Polyester Resins	12 000
Flodur Hardeners	1 100
Epoxy Hardeners	450



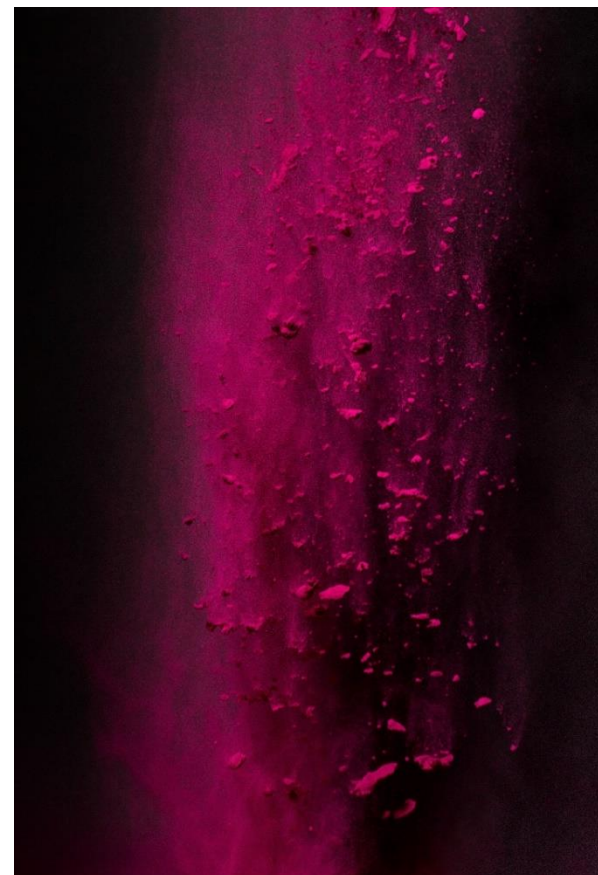


PRODUCT PORTFOLIO – ER

PRODUCT PORTFOLIO – EPOXY RESINS

TYPE 1 and TYPE 2

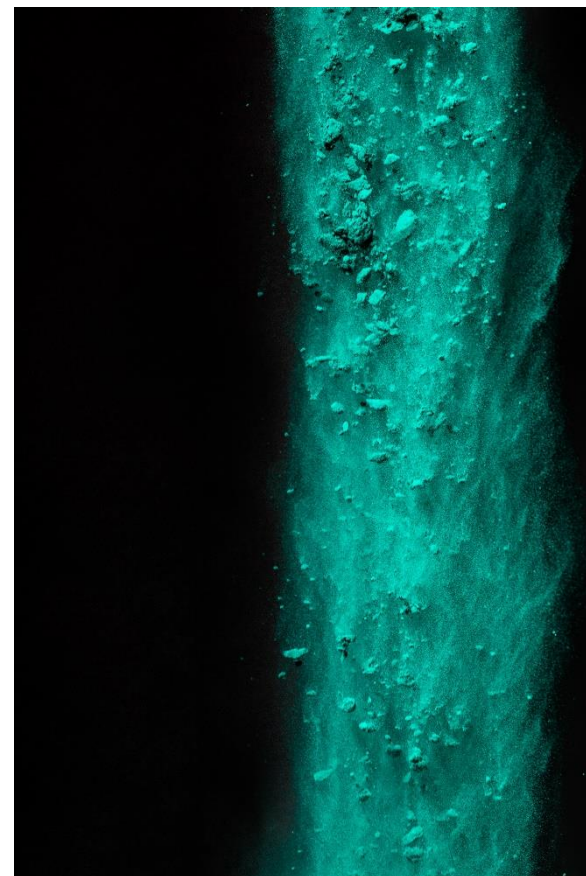
TYPE 1	EPIDIAN® MLB	<ul style="list-style-type: none"> ▪ Low bake epoxy resin for pure epoxy powder coatings ▪ Excellent flow properties ▪ Low viscosity ▪ Recommended for MDF applications
	EPIDIAN® 010A	<ul style="list-style-type: none"> ▪ Type 1,5 epoxy resin for low temperature powder coatings ▪ Excellent flow properties ▪ Designed for both hybrid and pure epoxy powder coatings
TYPE 2	EPIDIAN® 010	<ul style="list-style-type: none"> ▪ Type 2 epoxy resin with a wide range of applications and flexible epoxide number ▪ Designed for powder coatings with high gloss and excellent flow properties
	EPIDIAN® 010B	<ul style="list-style-type: none"> ▪ Standard epoxy resin for powder coatings with excellent flow properties
	EPIDIAN® 010C	<ul style="list-style-type: none"> ▪ Type 2,5 epoxy resin for powder coatings with high gloss and excellent flow properties



PRODUCT PORTFOLIO – EPOXY RESINS

TYPE 3 and TYPE 4

TYPE 3	EPIDIAN® 011CW	<ul style="list-style-type: none"> Standard epoxy resin for hybrid and pure epoxy powder coatings
	EPIDIAN® 011E	
	EPIDIAN® 011	
	EPIDIAN® 011A	
	EPIDIAN® 031M	<ul style="list-style-type: none"> Epoxy resin for hybrid powder coatings Improved overbake resistance
	EPIDIAN® 031	<ul style="list-style-type: none"> Epoxy resin for pure epoxy powder coatings
	EPIDIAN® 033A	<ul style="list-style-type: none"> Epoxy resin for structural powder coatings
TYPE 4	EPIDIAN® 012	<ul style="list-style-type: none"> Standard epoxy resin designed for pure epoxy powder coatings
	EPIDIAN® 012I	
	EPIDIAN® 012U	



PRODUCT PORTFOLIO – EPOXY RESINS

EPIDIAN® 031M



Standard epoxy resin for powder coatings.

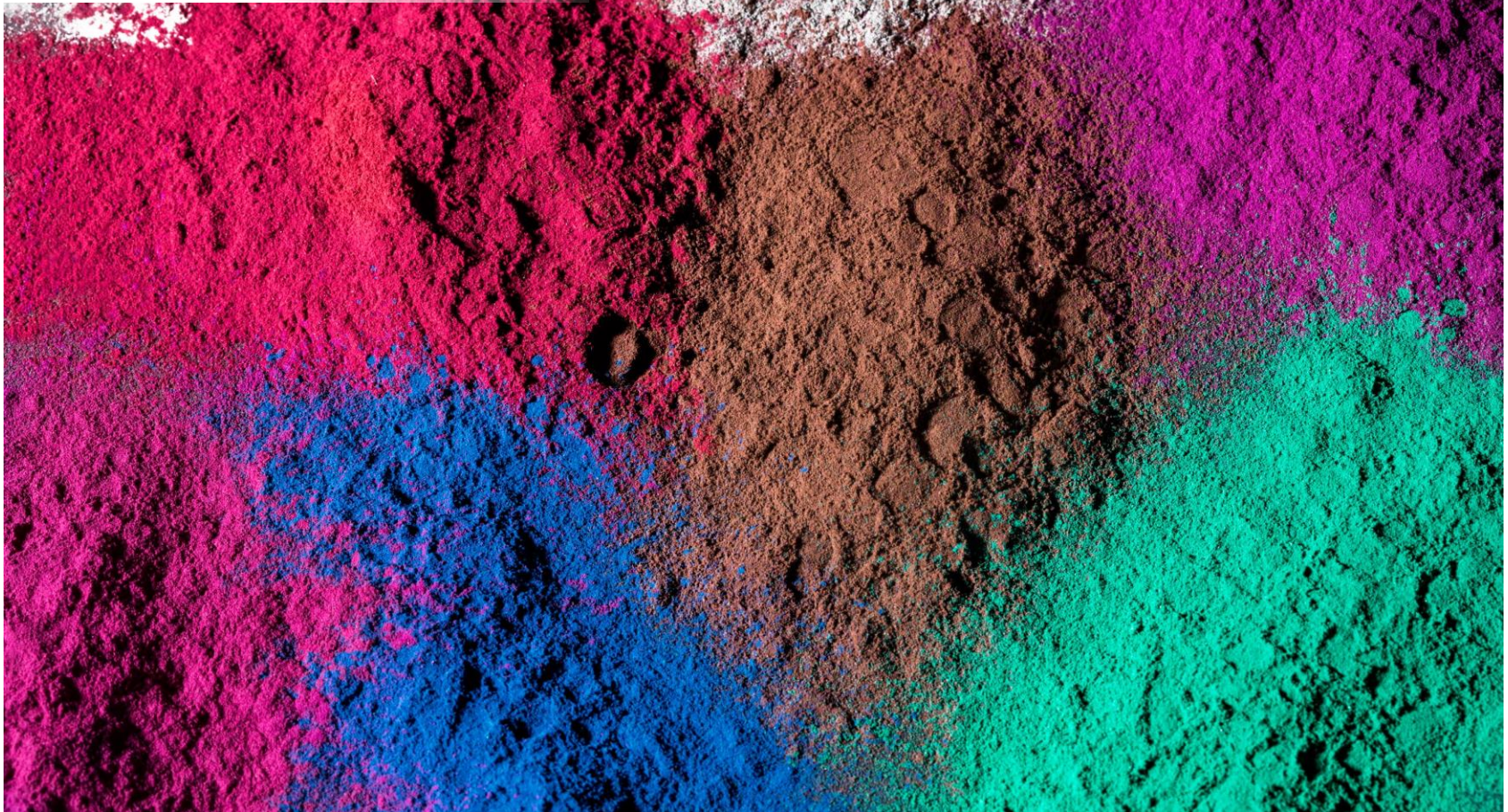
Increased resistance to overbaking in confrontation with high temperatures.

FEATURES & BENEFITS

- Core resin
- Dedicated to epoxy primers
- Excellent anticorrosion properties
- May be used for hybrid systems

EEW g/mol		Epoxy number mol/100 g		Softening point °C		Viscosity of 40% sol. in BDG 25 °C *of melt by 150 °C [mPas]	
715	835	0,120	0,140	88	98	2 500*	4 500*

**Available in hCl < 600 ppm, dedicated specifically to PURE EPOXY PAINTS and PAINTS RESISTANT TO OVERBAKING

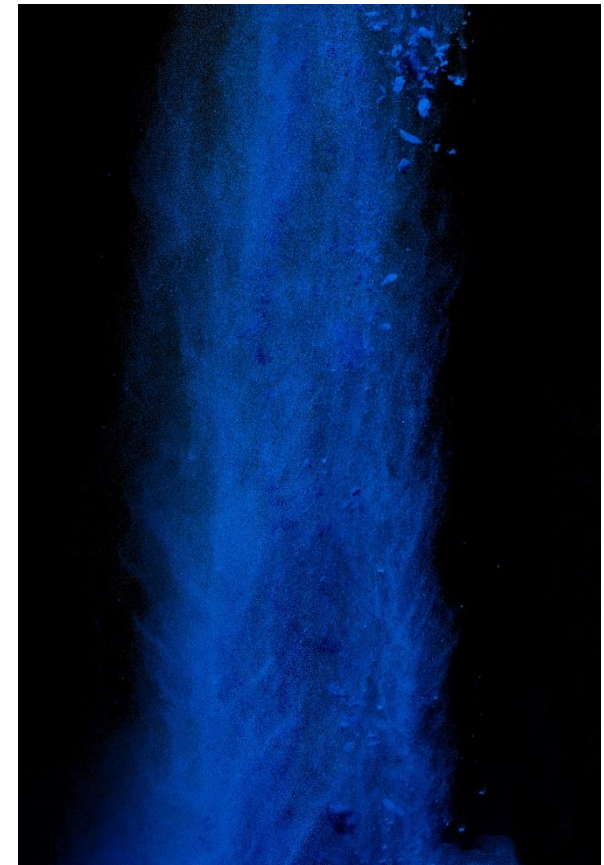


PRODUCT PORTFOLIO – SPR

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

50/50 and 60/40 HYBRID SYSTEM

50/50 SYSTEM	GS 5501/T	<ul style="list-style-type: none"> ▪ Universal resin for smooth and structural coatings ▪ Short curing time
	GS 5511/T	<ul style="list-style-type: none"> ▪ Universal resin for smooth and structural coatings
	GS 5512/T	<ul style="list-style-type: none"> ▪ Universal resin for smooth and structural coatings ▪ Curing at 155 °C
60/40 SYSTEM	GS 6461/T	<ul style="list-style-type: none"> ▪ Universal resin with good flow properties ▪ Designed for smooth and structural coatings
	GS 6401/T	
	GS 6411/T	<ul style="list-style-type: none"> ▪ Universal resin with good flow properties ▪ Designed for smooth and structural coatings ▪ Short curing time



PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

70/30 HYBRID SYSTEM

70/30 SYSTEM	GS 7371/T	<ul style="list-style-type: none"> ▪ Universal use resin ▪ Designed for smooth and structural coatings
	GS 7351/T	<ul style="list-style-type: none"> ▪ Universal use resin ▪ Designed for structural coatings
	GS 7375/T	<ul style="list-style-type: none"> ▪ High reactivity and good flow properties ▪ Curing at 155 °C
	GS 7385/T	<ul style="list-style-type: none"> ▪ High reactivity and good flow properties ▪ Designed for smooth coatings ▪ Curing at 155 °C
	GS 7361M/T	<ul style="list-style-type: none"> ▪ Good flow properties ▪ Designed for smooth coatings ▪ Curing at 160 °C
	GS 7362M/T	<ul style="list-style-type: none"> ▪ Good flow properties ▪ Designed for structural coatings ▪ Curing at 160 °C



PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

96/4 SYSTEM

96/4 SYSTEM

GP 96420/T

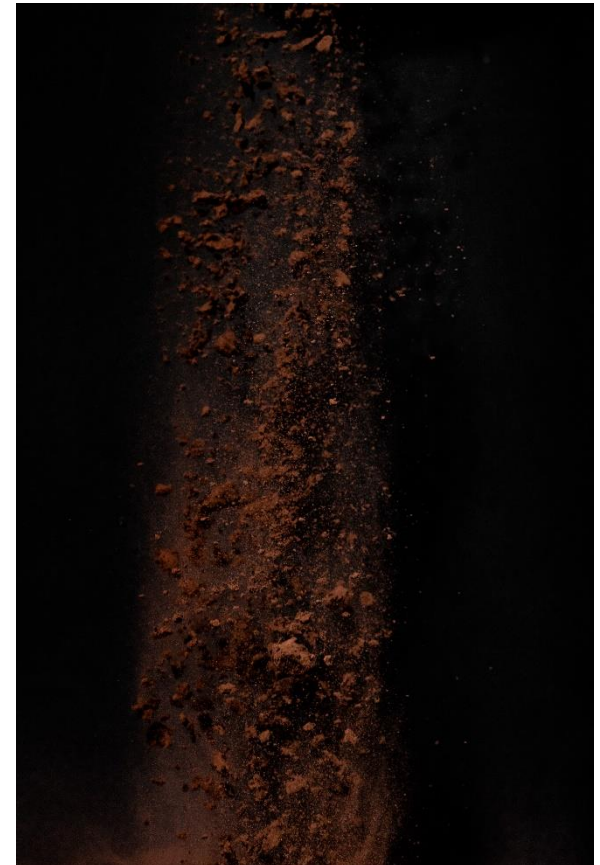
- Industrial resin with improved UV resistance
- Designed for smooth and structural coatings
- PE/HAA 96/4



PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

95/5 SYSTEM

95/5 SYSTEM	GP 95513/T	<ul style="list-style-type: none"> ▪ Basic architectural resin with improved UV resistance ▪ Designed for smooth and structural coatings
	GP 95511/T	<ul style="list-style-type: none"> ▪ Industrial resin with good UV resistance ▪ Designed for smooth and structural coatings
	GP 95516/T	<ul style="list-style-type: none"> ▪ Industrial resin with good UV resistance ▪ Designed for smooth coatings with improved elasticity ▪ High Tg, good yellowing and gas-oven resistance
	GP 95517/T	<ul style="list-style-type: none"> ▪ Industrial resin with good UV resistance ▪ Designed for smooth and structural coatings ▪ Good yellowing resistance
	GP 95518/T	<ul style="list-style-type: none"> ▪ Architectural resin with high UV resistance ▪ Designed for smooth coatings ▪ Overbake and gas-oven resistant



PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

95/5 SYSTEM

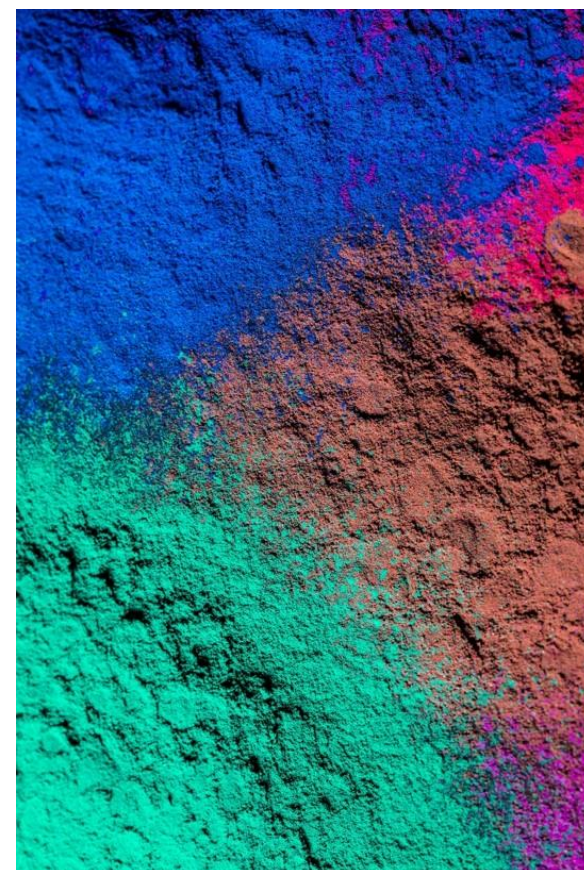
95/5 SYSTEM	GP 95535/T	<ul style="list-style-type: none"> ▪ Architectural resin with improved UV resistance ▪ Excellent flow and short curing time
	GP 95500/T	<ul style="list-style-type: none"> ▪ Architectural Super Durable resin with excellent UV resistance ▪ Designed for smooth coatings
	GP 95530/T	<ul style="list-style-type: none"> ▪ Industrial resin with high UV resistance ▪ Designed for smooth and structural coatings ▪ Curing at 160 °C
	GP 955WSR/T	<ul style="list-style-type: none"> ▪ Architectural resin with high UV resistance ▪ Water spot resistant
	GP 95520/T	<ul style="list-style-type: none"> ▪ Industrial resin with improved UV resistance ▪ Designed for smooth and structural coatings ▪ Overbake and gas-oven resistant ▪ Good flow



PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

DRY BLEND SYSTEM

DRY BLEND SYSTEM	GP 92801/T	<ul style="list-style-type: none"> ▪ Architectural matting system with excellent UV resistance
	GP 96413/T	<ul style="list-style-type: none"> ▪ Recommended proportions - 50/50 ▪ Gloss - 30GU ▪ Designed for smooth coatings
	GP 93770/T	<ul style="list-style-type: none"> ▪ Architectural matting system with excellent UV resistance
	GP 96413/T	<ul style="list-style-type: none"> ▪ Recommended proportions - 50/50 ▪ Gloss - 40GU ▪ Designed for smooth coatings
	GP 93770/T	<ul style="list-style-type: none"> ▪ Architectural matting system with excellent UV resistance
	GP 96435/T	<ul style="list-style-type: none"> ▪ Recommended proportions - 50/50 ▪ Gloss - 50GU ▪ Designed for smooth coatings





APPLIANCES

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GS 6461/T



Polyester resin for 60/40 hybrid system, where epoxy resin increases chemical resistance and adhesive properties, while polyester improves rheological properties of the coating.

FEATURES & BENEFITS

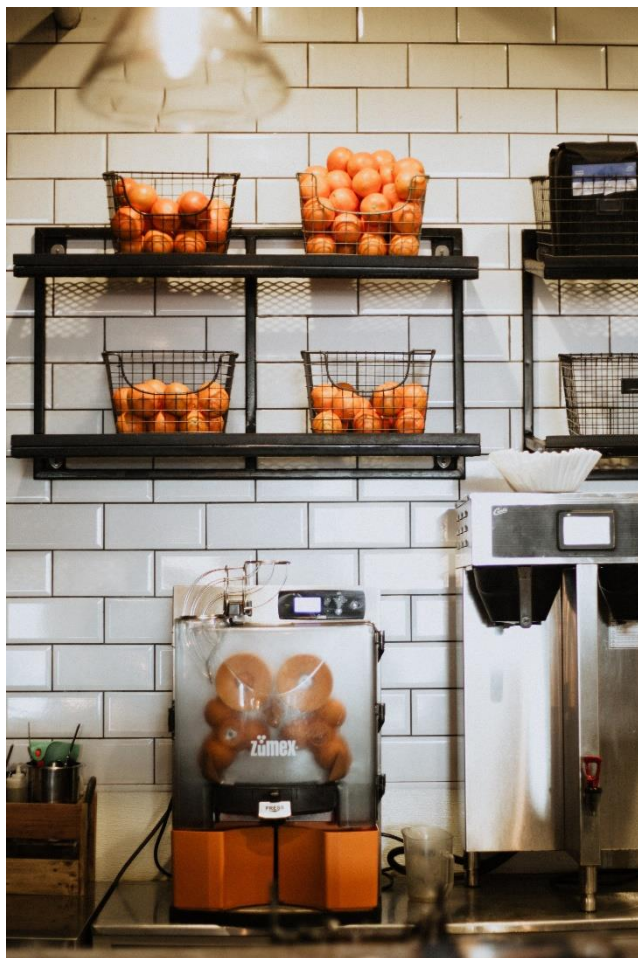
- Perfect flow
- Dedicated to wide & smooth surfaces
- Excellent chemical resistance in highly corrosive environment
- Suitable for both smooth and fine textured powder coating formulations

AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
47	57	14 000	32 000	63	-	15	10

*CORONA version available upon request

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GS 7351/T



Polyester resin for 70/30 hybrid system, where epoxy resin increases chemical resistance and adhesive properties, while polyester improves the rheological properties of the coating.

FEATURES & BENEFITS

- Dedicated to structural coatings
- Ensures an even structure of the coating
- Core resin for appliances
- Universal application

AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
28	38	20 000	40 000	54	-	15	10

*CORONA version available upon request

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GS 7371/T



Polyester resin for 70/30 hybrid system, where epoxy resin increases chemical resistance and adhesive properties, while polyester improves the rheological properties of the coating.

FEATURES & BENEFITS

- Excellent chemical resistance
- Good flow
- Core resin for appliances
- Universal application
- Suitable both for smooth and structural coatings

AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
32	42	10 000	27 000	57	20	12	7

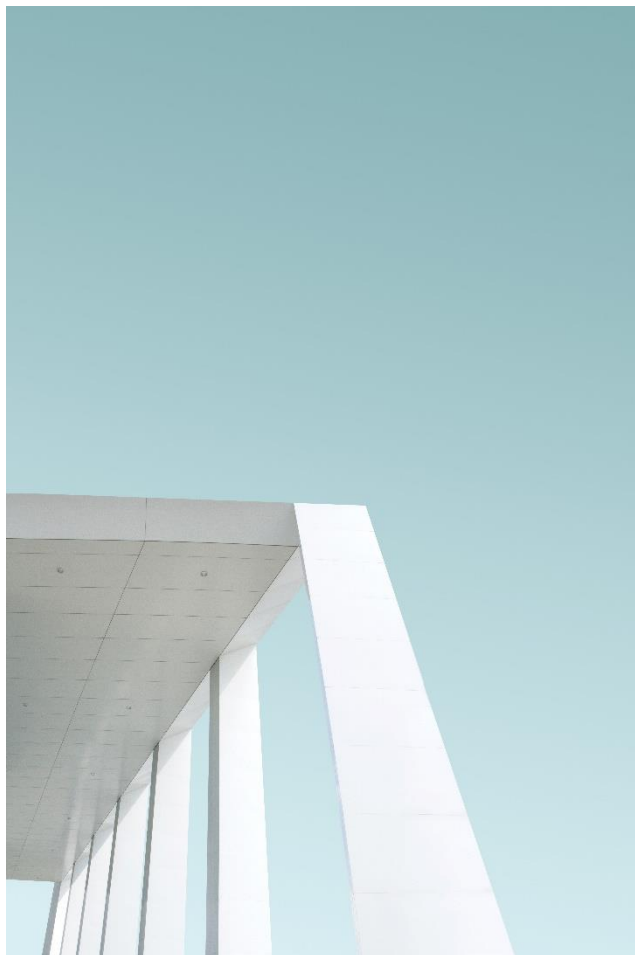
*CORONA version available upon request



INDUSTRIAL RESINS

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 95516/T



An excellent polyester resin cured with Primid XL-552 in 95:5 ratio.

Characterised by excellent mechanical and good UV resistance.

FEATURES & BENEFITS

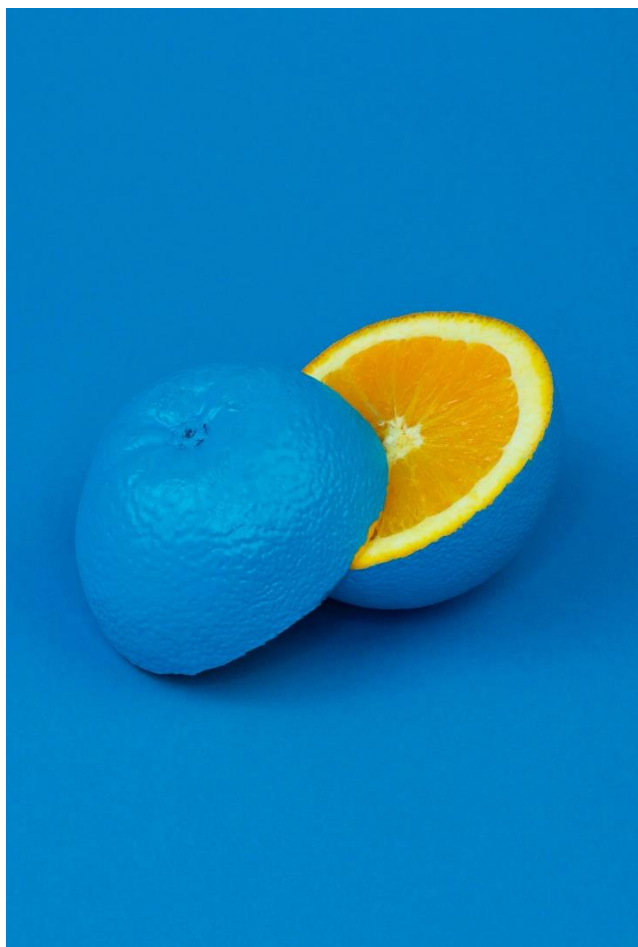
- May be transported and stored safely in higher temperatures
- Ensures a smooth surface
- Possible curing by TGiC
- Good yellowing resistance

AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
30	40	14 000	40 000	67	-	12-15	-

*CORONA version available upon request

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 95517/T



An excellent polyester resin cured with Primid XL-552 in 95:5 ratio.

Characterised by excellent mechanical and good UV resistance.

FEATURES & BENEFITS

- Dedicated to structural coatings
- Ensures an even structure of the coating
- Highly resistant to yellowing
- Fine Texture / Orange Peel Effect

AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
32	42	12 000	27 000	59	-	12	7

*CORONA version available upon request

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 95530/T



An excellent polyester resin cured with Primid XL-552 in 95:5 ratio.

Characterised by excellent mechanical and moderate UV resistance.

FEATURES & BENEFITS

- Dedicated to industrial coatings
- High reactivity
- Good price vs Performance
- No blooming

AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
30	40	10 000	25 000	51	15	10	-

*CORONA version available upon request



ARCHITECTURAL RESINS

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 95500/T



An excellent polyester resin cured with Primid XL-552 in 95:5 ratio.

Characterised by very good resistance to mechanical damage and excellent resistance to UV radiation.

FEATURES & BENEFITS

- Dedicated to Qualicoat Class II
- Good flow
- Resistant to yellowing
- Super Durable
- Designed for systems offering 25 years of warranty in accordance with powder coatings manufacturers' policies

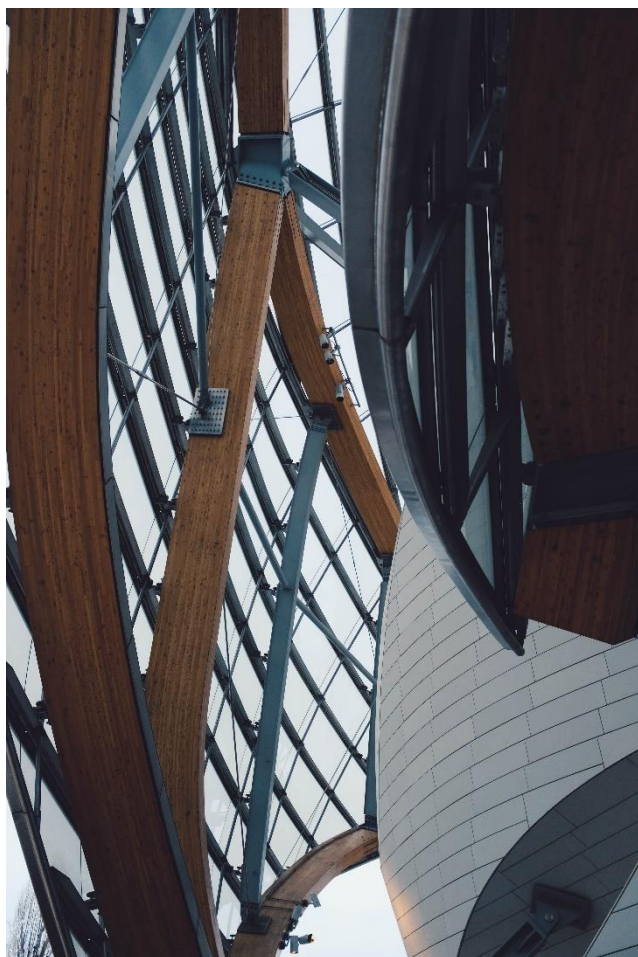
AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
30	40	12 000	38 000	52	-	15	10

*CORONA version available upon request

**Available in 95510/T version (HIGH TG)

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 95513/T



Excellent polyester resin cured with Primid XL-552 in 95:5 ratio.

Characterised by excellent mechanical and good UV resistance.

FEATURES & BENEFITS

- Good flow
- High resistance to yellowing when exposed to higher temperatures
- Suitable both for smooth and structural coatings

AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
30	40	12 000	30 000	56	20	12	7

*GP 95513 T /tribo chargeability 1-2 µA/

**GP 95513 TS /tribo chargeability about 6 µA/

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 95518/T



An excellent polyester resin cured with Primid XL-552 in 95:5 ratio.

Characterised by excellent mechanical and good UV resistance.

FEATURES & BENEFITS

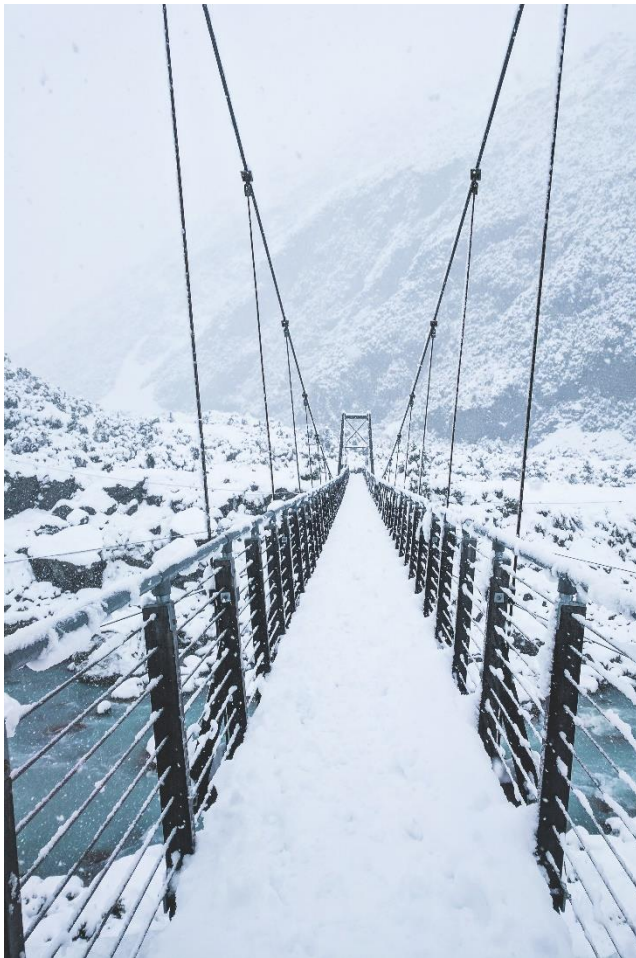
- Dedicated to Qualicoat Class I
- Perfect flow
- Resistant to yellowing
- Designed for systems offering 10 years of warranty in accordance with policies of PC manufacturers

AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
30	40	12 000	25 000	61	20	12	7

CORONA version available upon request

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 95535/T



Highly reactive polyester resin cured with Primid XL-552 in 95:5 ratio.

Characterised by good mechanical resistance. Dedicated to low temperatures.

FEATURES & BENEFITS

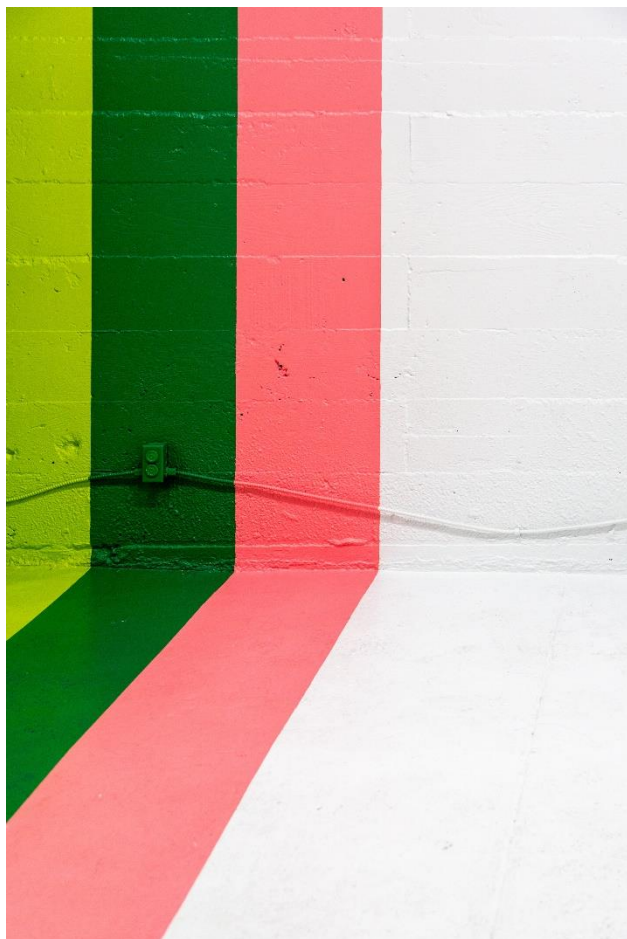
- Dedicated to structural coatings
- Minimal energy consumption
- Low cure
- No blooming

AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
30	40	12 000	36 000	59	17	7	4

* CORONA version available upon request

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

DRY BLEND



GP 96435/T & GP 93770/T *50GU*Q1
GP 93770/T & GP 96413/T *40GU*Q1
GP 96413/T & GP 92801/T *30GU*I

Two component system of polyester resins cured with Primid XL-552 dedicated for matt effect.

FEATURES & BENEFITS

- Dedicated to industrial coatings & Qualicoat Class I
 - Pure formulation
 - Designed for systems offering 10 years of warranty in accordance with policies of PC manufacturers
 - **NO ADDITIONAL MATTING AGENTS REQUIRED**
-

TECHNICAL SPECIFICATION TO EACH SYSTEM
AVAILABLE IN DEDICATED TECHNICAL DATA SHEET.

*CORONA version available upon request

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 955WSR/T



An outstanding polyester resin cured with Primid XL-552 in 95:5 ratio.

Characterized by very good UV resistance and excellent ΔL parameters (anti-blanching).

■ FEATURES & BENEFITS

- Dedicated to Qualicoat Class I
- ΔL 0,66 (according to Water Spot Test Result)
- Smooth Surface
- Designed for systems offering 10 years of warranty in accordance powder coatings manufacturers' policies


AV mgKOH/g		Viscosity at 165 °C		Tg	Cure cycles in min		
min	max	min	max	°C	160 °C	180 °C	200 °C
30	40	17 000	35 000	61	20	12	7


*Available CORONA version upon request

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 955WSR/T WATER SPOT TEST

REQUIREMENT of Part VII / Measuring and Testing Methods

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Part VII – Measuring and Testing Methods		
15 Resistance to Moisture		
15.1 Application and Purpose		
This is to assess the suitability of coated aluminium building components for storage under the influence of condensation and temperature in closed / wrapped conditions.		
This process requires lower moisture levels than the constant condensation or boiling water tests at increased temperatures.		
15.2 Procedure		
Five round filters Kat. Nr. 1001-055 with a diameter of 55 mm of the company Whatman are placed on top of each other onto an appropriately coated sample and are then saturated with 1.5 ml + 0.1 ml of fully demineralised water. The damp paper inserts are pressed down gently and are then covered with a watch glass. The watch glass is taped to the sample using insulating tape (Scotch Super 33+ of 3M) to ensure that no moisture can escape.		
The so prepared sample is then stored for 4 hours ± 5 min. in a drying cupboard at a sample temperature (peak metal temperature) of $T_{\text{sample}} = 50 \pm 2 \text{ }^\circ\text{C}$. After cooling for 15 minutes, the watch glass and filter paper inserts are removed from the sample. The sample is conditioned at room temperature ($T = 23 \pm 2 \text{ }^\circ\text{C}$) for a period $t = 20 \pm 2 \text{ h}$.		
15.3 Assessment		
To assess any colour changes, the colour of both an exposed and unexposed reference sample must be measured at three spots excluding gloss. The mean value is assessed. In addition the TC will visually assess the samples.		
16 Adhesion of Sealant		
An appropriately coated sample is cleaned with a paper napkin soaked in Isopropanol. Vertical and horizontal wiping must not cause any traces of lacquer to be detected on the napkin and the coated surface must not show any damage.		
After 5 minutes approx two 100 mm long tracks of the relevant sealant, which is pre-determined by the TC (currently DC 791 Dow Corning) are applied. Alternative sealants may be used, provided the GSB International has been pre-advised accordingly by the material manufacturer and the sealant is recorded in the technical data sheet.		
The sample is then stored at room temperature and 50 % relative moisture for a period of 7 days to bond the sealant, after which the adhesion of the first sealant track is examined, whereby the track is removed by hand, a small cut with a knife to the sealant as starting point is possible.		
The sample is then stored in de-ionised water (conductivity < 10µS / cm ²) for a period of 7 days, on completion of which the second track of sealant is examined.		
The applicability of the coating for structural glazing cannot be derived from this test.		

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 955WSR/T WATER SPOT TEST

REQUIREMENT of UPDATE SHEET No. 8

QUALICOAT SPECIFICATIONS
15th Edition

UPDATE SHEET No. 8
23.11.17
Page 1/2

Subject:	Water spot test
QUALICOAT resolution:	<u>Resolution No. 9/TC 23.05.17</u> The TC asked the Powders WG to prepare a proposal for the introduction of a water spot test for granting and renewing approvals, without fixing any limit values, to gain experience over a certain period.
Date of ratification:	22-23 November 2017
Date of application:	1 July 2018
Amendment to the Specifications:	<ul style="list-style-type: none"> • New Section 2.20 Water Spot test • Additional item in section 4.1.3 Tests for granting an approval • Additional reference in section in 4.2.1 Laboratory tests and Florida test
2.20 Water spot test	
TEST METHOD	
	The demineralised water shall be heated up to 60°C in a beaker of the proper size and kept under stirring to uniform temperature.
	The test panels shall be immersed for a half in water. Care must be taken not to put the panel in contact with the bottom of the beaker.
	The panel shall be immersed for 24 hours at 60 ± 1°C. The glass shall be properly covered to avoid water evaporation.
	At the end of the test, the panel shall be immediately cooled down in demineralised water. It shall then be dried with paper towels without rubbing.
	Colour change: ΔE and ΔL CIELAB formula according to ISO 11664-4, measurement including specular reflection.
REQUIREMENTS:	
Colour change	
	The ΔL value shall be less than 4.

QUALICOAT SPECIFICATIONS
15th Edition

UPDATE SHEET No. 8
23.11.17
Page 2/2

Subject:	WATER SPOT TEST
4.1.3 Tests for granting an approval¹	
	The following tests shall be made:
	<ol style="list-style-type: none"> 1) Gloss (2. 2) 2) Coating thickness (2.3) 3) Dry adhesion (2.4.1) 4) Indentation (2.5) 5) Cupping test (2.6) 6) Bend test (2.7) 7) Impact test (2.8) 8) Resistance to humid atmospheres (2.9) 9) Acetic acid salt spray resistance (2.10) 10) Accelerated weathering test (2.12) 11) Polymerisation test (2.14) 12) Resistance to mortar (2.15) 13) Wet adhesion (2.4.2) 14) Condensation water test (2.17) 15) Water spot test (2.20) 16) Natural weathering (Florida) (2.13)
	[...]
4.2.1 Laboratory tests and Florida exposure	
	Renewal of class 1 and class 1.5 approvals
	Consistent quality of approved organic coating materials is monitored with tests 1 to 16 (see § 4.1.3) [...]
	Renewal of class 2 and class 3 approvals
	Consistent quality of approved systems is monitored annually with tests 1 to 16 (see § 4.1.3) [...]

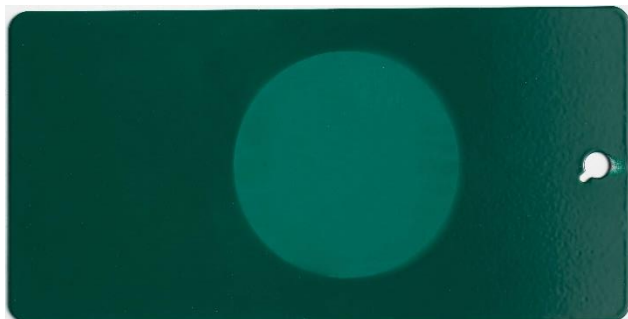
PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 955WSR/T WATER SPOT TEST



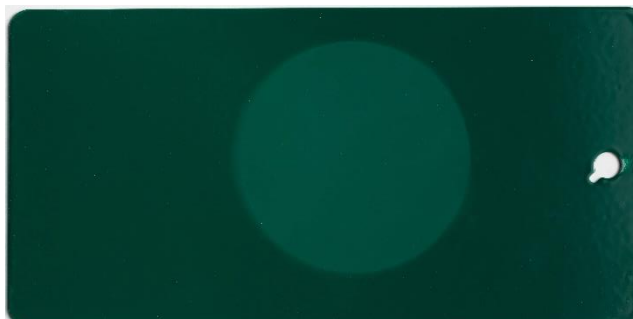
PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 955WSR/T WATER SPOT TEST



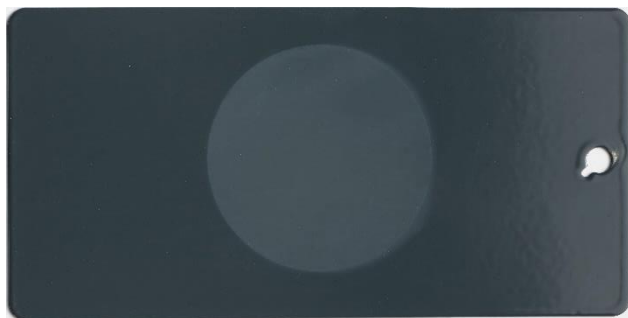
Standard Facade Resin

ΔL : 6.40



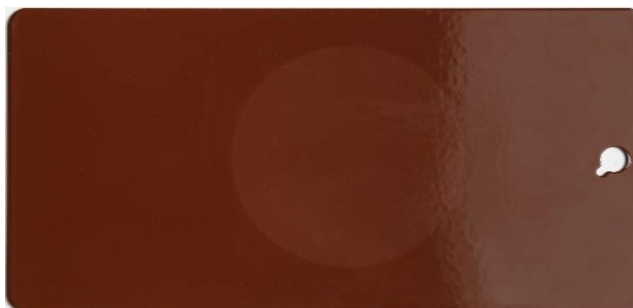
Anti-Blanching Facade Resin

ΔL : 4.86



Standard Facade Resin

ΔL : 4.86



Competition's Facade Resin

ΔL : 4.86



GP955WSR/T
Resin by CIECH Sarzyna

ΔL : 0.66

PRODUCT PORTFOLIO – SATURATED POLYESTER RESINS

GP 955WSR/T WATER SPOT TEST

TEST for  Institute of Precision Mechanics / IMP



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AR 240

LABORATORY
FOR TESTING OF THE ORGANIC COATINGS AND PAINTS
LB-3

Report
No. LB-3/813-1/2019

Customer: Ciech Sarzyna S.A.
Chemików 1
37-310 Nowa Sarzyna

Object of the test: Studies of powder coatings resistance to hot water. Test conducted according to 8th update of Qualicoat specifications

Delivery of samples date: 7th January 2019 yr.
Test beginning date: 8th January 2019 yr.
Test finishing date: 9th January 2019 yr.
Report preparation date: 9th January 2019 yr.

Report prepared by: M.Sc. Eng. Michał Wojucki
Report checked by: Krystyna Kostzewa

Report authorized by: M.Sc. Eng. Stanisław Gorzkowski

Report contains 4 pages Prepared 2 copies Copy. No. 1

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3. Results of test

3.1. Determination of coatings thickness

Results of measurements of thickness are shown in Table 1.

No. sample	Thickness [µm]	
	average	S _A
813-1/1/A	80	±1
813-1/1/B	55	±1
813-1/1/C	65	±1
813-1/1/D	67	±1
813-1/1/E	68	±4
813-1/1/F	77	±3

Studies were performed in temperature 21°C and relative humidity 46%.

3.2. Determination of color (before the test)

Results of determination of color parameters for standard is shown in Table 2. Results of determination of coatings color on samples before the test are shown in Table 3.

No. sample	Parameters standard 813-1/1/A		
	L	a	b
813-1/1/A	20,30	16,30	21,26

Table 1.

Table 2.

Table 3.

No. sample	Parameters of samples compared to standard 813-1/1/A							
	ΔL average	S _A	Δa average	S _A	Δb average	S _A	ΔE average	S _A
813-1/1/B	-0,21	±0,01	0,27	±0,02	0,57	±0,05	0,66	±0,04
813-1/1/C	-0,15	±0,03	0,17	±0,01	0,45	±0,11	0,51	±0,10
813-1/1/D	-0,15	±0,01	0,20	±0,02	0,30	±0,06	0,40	±0,06
813-1/1/E	-0,22	±0,01	0,25	±0,02	0,58	±0,02	0,66	±0,02
813-1/1/F	-0,19	±0,02	0,22	±0,05	0,42	±0,19	0,55	±0,11

Studies were performed in temperature 21°C and relative humidity 46%.

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3.3. Determination of color (Water spot test)

Results of determination of color parameters for standard is shown in Table 4. Results of determination of coatings color on samples after the test are shown in Table 5.

No. sample	Parameters standard 813-1/1/A		
	L	a	b
813-1/1/A	20,14	16,38	22,19

Table 4.

Table 5.

No. sample	Parameters of samples compared to standard 813-1/1/A							
	ΔL average	S _A	Δa average	S _A	Δb average	S _A	ΔE average	S _A
813-1/1/B	2,18	±0,01	0,05	±0,01	-0,68	±0,02	2,37	±0,15
813-1/1/C	2,10	±0,06	0,11	±0,12	-1,83	±0,10	2,77	±0,04
813-1/1/D	2,33	±0,19	-0,01	±0,18	-2,15	±0,14	3,18	±0,22
813-1/1/E	2,73	±0,02	-0,08	±0,07	-2,87	±0,16	3,66	±0,11
813-1/1/F	2,77	±0,21	-0,23	±0,08	2,97	±0,35	4,04	±0,42

Studies were performed in temperature 21°C and relative humidity 46%.



Pic.1 Appearance of the samples after conducting Water spot test (B, C, D, E, F)

THE END

CIECH SARZYNA

Work with us and we will empower your success





THANK YOU FOR YOUR ATTENTION