



SIR INDUSTRIALE SpA



EPOXY RESINS



INDEX

EPOXY RESINS

WHO IS SIR?	1
LIQUID EPOXY RESINS	
• BISPHENOL A BASED	3
• BISPHENOL A/F BASED	4
REACTIVE DILUENTS	
• EPOXY REACTIVE DILUENTS	7
WATER BASED EPOXY RESINS	
• ONE-PACK SYSTEM	8
• TWO-PACK SYSTEMS	8
SOLID EPOXY RESINS	
• SOLID RESINS (Fusion process)	10
• SOLID RESINS (Taffy process)	11
• SOLID RESINS SPECIAL GRADES	11
HARDENERS AND SPECIALTIES	
• SOLID EPOXY CURING AGENTS	12
• CYCLOALIPHATIC LIQUID EPOXY RESINS	12
SOLUTION GRADES	14-15
SIR IN THE WORLD	16



WHO IS **SIR**?

With more than **80 years of experience** in the development and manufacturing of **high quality materials**, **SIR INDUSTRIALE Spa** simply knows how to **find** the best solution for **your specific needs**.

SIR INDUSTRIALE Spa aims at finding the **best solution** for the customers through **cooperation** and **passion** for continuous **improvements**.

Epoxy resins (**EPOSIR®** and **EPONAC®**) represent a class of very **versatile** thermosetting products thanks to their outstanding chemical-physical characteristics. These properties can be summarized as follows:

- Wide range of viscosity provides excellent application ductility
- High reactivity allows good hardening at low temperatures
- Enhanced mechanical properties
- Good thermal resistance
- Excellent resistance to chemical agents
- High dielectric strength
- Minimum shrinkage of hardened products
- Strong adhesive power on various substrates

As result, epoxy resins **can be used** in the following **application sectors**:

- BUILDING INDUSTRY
- ELECTRONICS/ELECTRO TECHNICS
- FOUNDRY
- REINFORCED PLASTICS
- COMPOSITE MATERIALS
- PAINTS

ADVANCED SERVICE CENTER:

SIR avails it self of a **centralized structure** for **study, research, design** and **development** activities that are indispensable to guarantee a constant **innovation-oriented** work.

MISSION:

To **create** optimum **value** for **all** customers, shareholders, employees and social partners applying safe, ethical and environmentally practice.



THE COMPANY

WE ARE READY FOR THE CHALLENGES
WHICH THE MARKET PROVIDES



BISPHENOL A BASED

EPOSIR	CHARACTERISTICS	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽¹⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽¹⁾	DYNAMIC VISCOSITY at 25°C (mPa.s) ⁽²⁾	COLOUR ⁽³⁾	APPLICATIONS
STANDARD BPA						
7120	Medium viscosity unmodified standard DGEBA	182-192	5.208-5.494	10.000-13.000	≤ 120 ⁽³⁾	Standard liquid epoxy resin based on bisphenol A. General purpose application.
7120 BC	Medium viscosity unmodified standard DGEBA. Low hydrolysable chlorine content version	182-189	5.291-5.494	10.000-13.000	≤ 120 ⁽³⁾	Similar to EPOSIR® 7120 with low hydrolysable chlorine content to meet requirements of electrical and composite materials industry.
7127	DGEBA standard low level viscosity version	182-196	5.102-5.494	8.000-10.000	≤ 150 ⁽³⁾	Low viscosity version commonly used in civil engineering and industrial coatings.
BPA MODIFIED WITH MONO-FUNCTIONAL REACTIVE DILUENTS						
7120/40	Low viscosity, modified with aliphatic monofunctional reactive diluent	190-210	4.762-5.263	1.300-1.600	≤ 2 ⁽⁴⁾	Modified version suitable for coating and civil engineering industry. Good flexibility and colour.
7120/42	Low viscosity, modified with aliphatic monofunctional reactive diluent. Lower viscosity level than EPOSIR® 7120/40	195-215	4.651-5.128	850-1.100	≤ 2 ⁽⁴⁾	Suitable for coating and civil engineering industry and flooring. Main applications include: flooring, grouting, concrete reinforcement, adhesive and coating. The aliphatic diluent increases pot-life, flexibility and acid resistance.
7120/46	Low viscosity, modified with aliphatic monofunctional reactive diluent. Lower viscosity version of EPOSIR® 7120/42	195-215	4.651-5.128	400-700	≤ 2 ⁽⁴⁾	Lower viscosity than EPOSIR® 7120/42 . Suitable for coating and engineering industry. Applications include small casting, adhesive, solventless paint and crack injection. Excellent flexibility.
7120/48	Low viscosity, modified with aliphatic monofunctional reactive diluent	200-230	4.347-5.000	850-1.100	≤ 2 ⁽⁴⁾	Low viscosity. Application in civil engineering industry (adhesives, grouts, mortars, small casting). Good flexibility.
BPA MODIFIED WITH BI-FUNCTIONAL REACTIVE DILUENTS						
7214	Low viscosity, modified with bi-functional aliphatic reactive diluent	175-195	5.128-5.714	950-1.350	≤ 2 ⁽⁴⁾	Modified with a di-functional reactive diluent and improved reactivity and solvent resistance. Recommended for civil engineering, casting, tooling, potting, encapsulation and RTM.
7219	Low viscosity, modified with bi-functional aliphatic reactive diluent. Lower viscosity than EPOSIR® 7214	175-195	5.128-5.714	700-1.000	≤ 2 ⁽⁴⁾	Similar application of EPOSIR® 7214 , but also for small casting, injections, flooring and solvent less coating.
7221	Low viscosity, modified with bi-functional aliphatic reactive diluent. Lower viscosity than EPOSIR® 7219	175-195	5.128-5.714	600-800	≤ 1.14 ⁽⁴⁾	Similar application of EPOSIR® 7214 . Suggested when lower viscosity is requested.

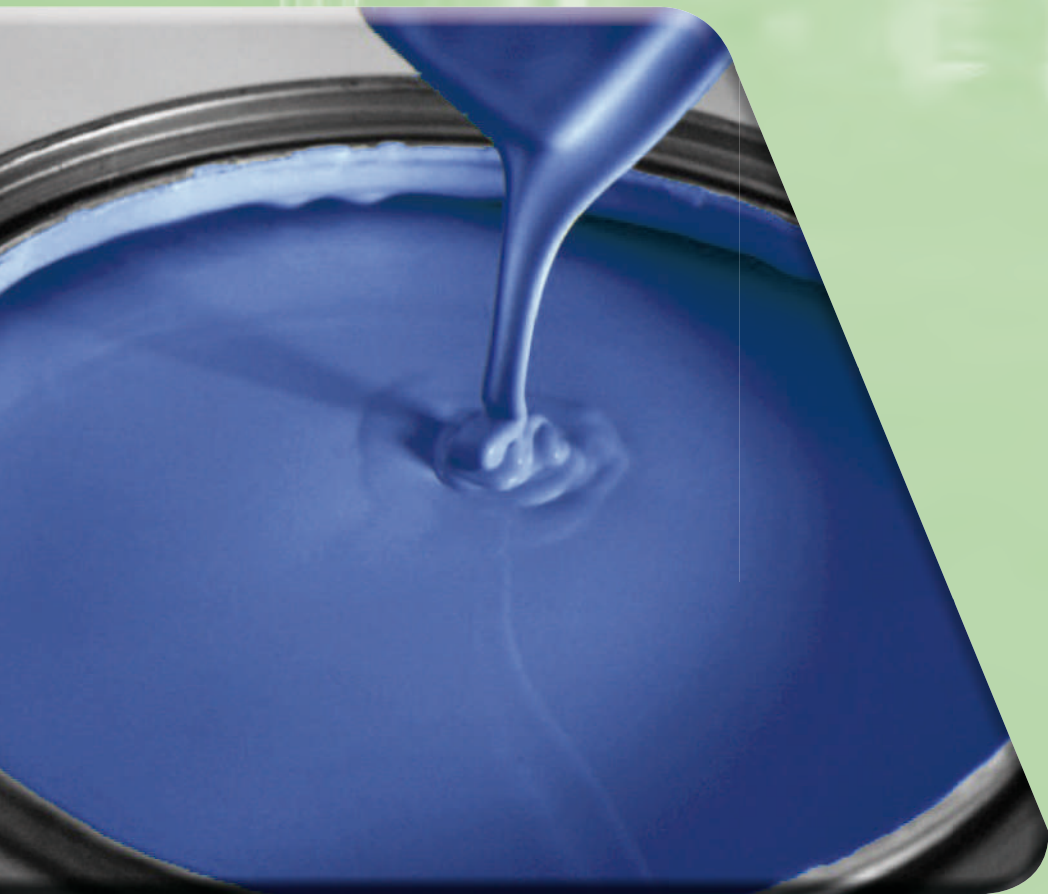
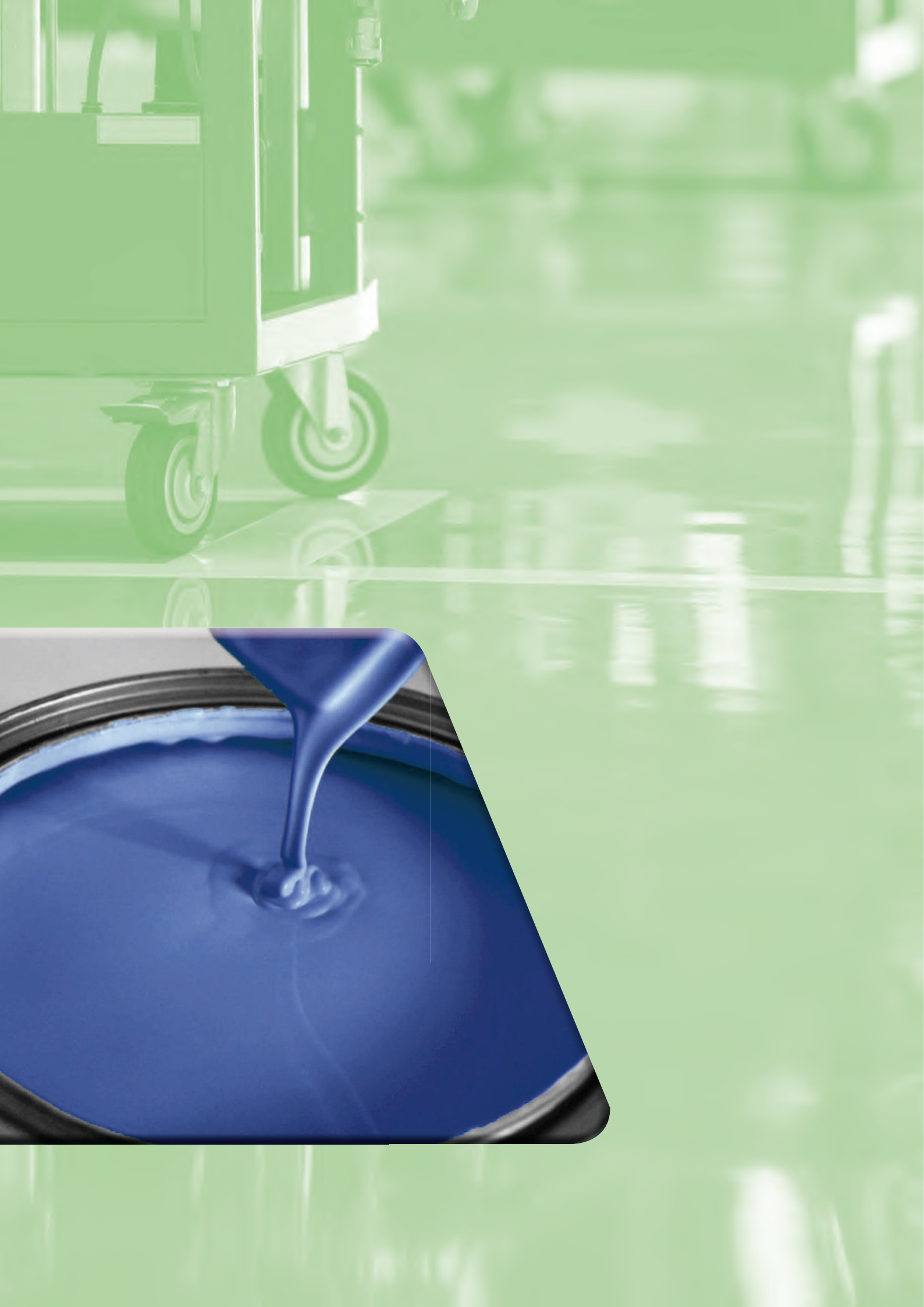
(1) Test method ISO 3001 - (2) Test method ASTM D 0445 - (3) Pt/co scale test method ASTM D 1209 - (4) Gardner Scale Test Method ASTM D 1544 (5) on 70% m/m solution in diethyleneglycol monobutylether solvent

BISPHENOL A/F BASED

EPOSIR	CHARACTERISTICS	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽¹⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽¹⁾	DYNAMIC VISCOSITY at 25°C (mPa.s) ⁽²⁾	COLOUR ⁽³⁾	APPLICATIONS
STANDARD BPA						
F556	Medium viscosity unmodified standard DGEBA/DGEBF blend	170-185	5.405-5.882	6.000-8.000	≤ 2	Low viscosity epoxy resin DGEBA/DGEGF based. Applications include solvent-free coatings, tank- and pipe-linings, concrete reinforcements and also floorings, adhesives, electrical insulation and filament winding. Excellent mechanical and chemical properties.
F 598	Standard Bisphenol F based LER	169-179	5.263-5.714	3.000-5.000	≤ 3	To be used alone or in mixture with Bisphenol. High-solid or solvent borne protective coatings for civil engineering and anticorrosion.
F 599	Polyfunctional low viscosity epoxy Novolac (2,5 functionality)	170-185	5.405-5.882	8.000-12.000	≤ 4	To be used alone or in mixture with Bisphenol. Protective coatings for civil engineering and anticorrosion. Suggested for higher chemical resistances of cured coatings.
F 602/IM	Medium viscosity unmodified DGEBA/DGEBF blend. Lower viscosity version than F 556	175-190	5.263-5.714	5.000-7.000	≤ 2	Similar to EPOSIR® F 556 but with lower viscosity level. Application in civil engineering with very good mechanical properties.
F 730	Medium viscosity unmodified DGEBA/DGEBF blend	175-185	5.405-5.714	4.000-5.000	≤ 2	Lower viscosity version than EPOSIR® F 602 . Higher content of DGEBF. Similar application of EPOSIR® F 556 .
BPA MODIFIED WITH MONO-FUNCTIONAL REACTIVE DILUENTS						
F740	Low viscosity, modified with aliphatic monofunctional reactive diluent	190-210	4.761-5.263	800-1.100	≤ 2	Very versatile product recommended for building and industries (flooring, adhesives, mortars and grouts), solvent free and high solid coating. Low tendency to crystallization.
F 740/LV	Low viscosity version of EPOSIR® F 740	190-210	4.716-5.263	500-900	≤ 2	Very versatile product recommended for building and industries (flooring, adhesives, mortars and grouts), solvent free and high solid coating. Low tendency to crystallization.
BPA MODIFIED WITH BI-FUNCTIONAL REACTIVE DILUENTS						
F 745	Low viscosity, modified with aliphatic bi-functional reactive diluent	175-190	5.263-5.714	500-700	≤ 2	Very low viscosity resin with improved reactivity and solvent resistance. Suitable for civil engineering, casting and tooling, potting and encapsulation applications. Low tendency to crystallization.

(1) Test method ISO 3001 - (2) Test method ASTM D 0445 - (3) Pt/co scale test method ASTM D 1209 - (4) Gardner Scale Test Method ASTM D 1544





EPOXY REACTIVE DILUENTS

PRODUCT	CHARACTERISTICS	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽¹⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽¹⁾	DYNAMIC VISCOSITY at 25°C (mPa.s) ⁽²⁾	COLOUR ⁽³⁾	PROPERTIES (in combination with liquid DGEBA resins)
EPOSIR 7103	Polypropylenglycol diglycidyl ether (Bifunctional aliphatic)	320-450	2.222-3.125	30-110	≤ 6	<ul style="list-style-type: none"> - Moderate reduction of viscosity - Improved adhesion to metallic surfaces - Increased flexibility - Reduction in surface hardness and general resistance to chemical agents
EPOSIR 7105	o-Cresyl glycidyl ether (Monofunctional aromatic)	170-190	5.263-5.882	7-10	≤ 3	<ul style="list-style-type: none"> - Good cutting power viscosity - Moderate reactivity reduction - Good solvent resistance - Moderate toxicity level
EPOSIR 7106	C ₁₂ -C ₁₄ alkyl glycidyl ether (Monofunctional aliphatic)	300-340	2.941-3.333	7-15	≤ 1	<ul style="list-style-type: none"> - Good flexibility - Excellent cutting power viscosity - Good flow and cutting properties - Reduction in surface hardness and resistance to chemical agents - Low toxicity
EPOSIR 7107	1,4-Butanediol diglycidyl-ether (Bifunctional aliphatic)	130-145	6.897-7.692	15-25	≤ 2	<ul style="list-style-type: none"> - Good cutting power viscosity - Good reactivity and processabilities - Surface hardness maintenance - Good chemical resistance and mechanical properties
EPOSIR 7109	1,6-Hexanediol diglycidyl ether (Bifunctional aliphatic)	150-170	5.882-6.666	20-30	≤ 1	<ul style="list-style-type: none"> - Good cutting power viscosity - Good reactivity - Slight reduction in hardness surface - Good mechanical properties
EPOSIR 7110	Polypropylenglycol 2.000 diglycidyl ether (Bifunctional aliphatic)	1.000-1.300	769-1.000	150-400	≤ 5	<ul style="list-style-type: none"> - Higher MW version of EPOSIR® 7103 - Excellent flexibility - Poor cutting power viscosity
EPOSIR 8103	Trimethylolpropane triglycidyl ether (Polifunctional aliphatic)	130-150	6.666-7.693	120-200	≤ 2	<ul style="list-style-type: none"> - Slight reduction of viscosity - High reactivity - Good chemical resistance and mechanical properties - Higher cross-linking density
SIRION 2311	Polyglycidyl ether of propoxylated pentaerythritol	210-260	3.846-4.761	150-350	≤ 3	<p>Reactive modifier in epoxy resin systems. SIRION® 2311 improves surface wetting properties of epoxy resin. In combination with suitable aminic hardeners improves impact strength and peel adhesion in epoxy systems.</p>

ONE-PACK SYSTEM

EPOSIR	CHARACTERISTICS / APPLICATIONS	SOLID CONTENT (%)	SOLVENT	VISCOSITY at 25°C (mPa.s) ⁽⁵⁾	SUGGESTED CURE CYCLE
WD 705	High molecular weight formulated epoxy-phenolic pre-condensate. Suitable for oven cured paints for industrial anticorrosion and heavy duty protection.	39-41	Butylglycol/ Water	15-40 sec. (Ford 04 cup) ⁽⁶⁾	30'/180 °C 15'/200 °C 07'/220 °C

TWO-PACK SYSTEMS

EPOSIR	CHARACTERISTICS / APPLICATIONS	SOLID CONTENT (%)	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽⁴⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽⁴⁾	VISCOSITY at 25°C (mPa.s) ⁽⁵⁾
F 728 NF	Low viscosity Bisphenol A/F based liquid epoxy resin, modified with a mono-functional reactive diluent.	100	190-210	4.761-5.263	1.200-1.500
WD 733/67	Low molecular weight, BPA/BPF based. Solvent free. Water dispersion. Suitable for civil engineering and anticorrosion. V.O.C. zero.	66-68	185-195	5.128-5.405	200-3.000
WD 711/A	"Type-1" Solid resin water dispersion. Suitable for civil engineering and anticorrosion paints.	55-59	550-650	1.538-1.818	100-1.000
WD 715/A	Water dispersion of type-1 internally flexibilized epoxy resin. The product contains 3% of organic solvent (isopropyl alcohol). The resin is intended to be used in combination with polyamines polyaminoamides or their adducts as curing agents, in the formulation of water-based two components primers and enamels for industrial anticorrosion and civil engineering.	53.0 ± 2.0	480-520	1.923-2.083	300-2.000
WD 741/A	"Type-4" Solid resin water dispersion. Suitable for anticorrosion paints.	55-59	800-900	1.111-1.250	100-1.000
WD 770/A	Special "Type-7" water dispersion epoxy resin with enhanced flexibility level. Recommended only as modifier with EPOSIR® WD 705 in order to improve flexibility to formulated epoxy resin. Suitable for anticorrosion paint oven cured.	39-41	1.500-2.000	500-666	15-40 ⁽⁶⁾
WD 771/A	"Type-7" solid resin water dispersion. Suitable for anticorrosion paints oven cured.	51-53	1.600-2.100	476-625	200-2.000

(1) Test method ISO3001 (2) Test method - ASTM D445 (3) Gardner Scale Test Method - ASTM D1544

(4) Determined on delivery form with reference to solid materials (5) Brookfield viscosity - ASTM D2393 (6) Ford cup n° 4, seconds - ASTM D1200



SOLID RESINS (Fusion process)

EPOSIR	CHARACTERISTICS	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽¹⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽¹⁾	GARDNER VISCOSITY at 25°C	COLOUR (Pt/CoScale) ⁽²⁾	APPLICATIONS
7161 ⁽³⁾	"Type-1" solid epoxy resins	460-520	1.923-2.174	F-I	≤ 150	Low MW. Suggested in combination with suitable hardeners for anticorrosive coatings, primers, stoving, enamels. Heavy duty protection.
7165 ⁽³⁾	Higher MW version than EPOSIR 7161	540-620	1.612-1.851	G-M	≤ 150	Low MW. Special " Type-1 " version with higher melting point to avoid agglomeration in summer time . Suitable for anticorrosion paint and hybrid powder coatings.
7166 PG	Low molecular weight Bisphenol A based solid epoxy resin	570-620	1.612-1.754	H-M	≤ 120	For formulation of Hybrid powder coatings in combination with carboxyl-terminated polyester resins.
7167 PG	"Type-2" solid epoxy resins	600-660	1.515-1.667	H-P	≤ 150	Low MW. Suggested for powder coatings with excellent flow.
7168 PG	"Type-2,5" solid epoxy resins	650-720	1.389-1.538	K-R	≤ 150	Low MW epoxy resin specially designed for hybrid powder coatings application requiring excellent flow and gloss.
7175 PG	"Type-3" solid epoxy resins	710-780	1.282-1.408	M-U	≤ 150	Low MW epoxy resins for both pure epoxy and hybrid epoxy-polyester powder coatings with excellent flow and gloss.
7178 PG	"Type-3,5" solid epoxy resins	770-840	1.190-1.298	O-U	≤ 150	Low MW epoxy resin with higher viscosity than EPOSIR® 7175 PG . Special version designed mainly for pure epoxy powder coatings.
7170 PG	"Type-4" solid epoxy resins	800-900	1.111-1.250	Q-V	≤ 150	Medium MW epoxy resin suitable for decorative and functional coatings with good flexibility and mechanical properties. Designed for pure epoxy powder coatings and the preparation of epoxy esters.
7179	Bisphenol A based higher MW solid epoxy resin, special grade	1.100-1.250	800-909	V-Z	≤ 150	Special grade. Suitable formulation for coatings and cataphoresis application. In blend with standard epoxy resins for powder coatings to increase adhesion and mechanical properties.

(1) Test method ISO 3001 (2) Determined on 40% m/m Butylcarbitolsolution (3) The resin might synthesize under hot/humid atmospheric conditions



SOLID RESINS ('TAFFY' process)

EPONAC	CHARACTERISTICS	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽¹⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽¹⁾	GARDNER VISCOSITY at 25°C	COLOUR (Pt/CoScale) ⁽²⁾	APPLICATIONS
5007 HMP ⁽³⁾	"Type-1" solid epoxy resin with higher melting point, better sintering resistance during storage	500-550	1.818-2.000	F-J	< 150	Low MW. Suggested in combination with suitable hardeners for anticorrosive coatings, primers, stoving, enamels. Heavy duty protection.
600	"Type-2" solid epoxy resins	600-700	1.428-1.667	H-M	< 150	Low MW. Suggested for powder coatings with excellent flow.
615	"Type-2,5" solid epoxy resins	650-720	1.389-1.538	J-O	< 150	Low MW epoxy resin specially designed for hybrid powder coatings application requiring excellent flow and gloss.
700	"Type-3" solid epoxy resins	700-760	1.316-1.428	L-Q	< 150	Low MW epoxy resins for both pure epoxy and hybrid epoxy-polyester powder coatings with excellent flow and gloss.
825	"Type-3" solid epoxy resins	730-830	1.204-1.370	N-T	< 150	Low MW epoxy resins for both pure epoxy and hybrid epoxy-polyester powder coatings with excellent flow and gloss.
945	"Type-4" solid epoxy resins	820-950	1.052-1.220	Q-V	< 150	Medium MW epoxy resin suitable for decorative and functional coatings with good flexibility and mechanical properties. Designed for pure epoxy powder coatings and the preparation of epoxy esters.
1079	"Type-5" solid epoxy resins	1.100-1.250	800-909	V-Z	< 150	Suitable for the formulation of epoxy powder coatings with better flexibility.
2055	"Type-6" solid epoxy resins	1.300-1.800	556-769	W-Z	< 150	High MW, suitable for oven cured anticorrosion points for can coatings application, coil primers, drums lining and other industrial paints.
2065	"Type-7" solid epoxy resins	1.500-2.000	500-666	X-Z	< 150	High MW, suitable for foodstuffs and hygienic materials contact, like toothpaste and can coatings.
3075	"Type-8" solid epoxy resins	2.000-2.800	357-500	Z + 1/2 - Z ₃	< 150	High MW, suitable for foodstuffs and hygienic materials contact, like toothpaste and can coatings.
4085	"Type-9" solid epoxy resins	2.500-3.500	286-400	Z ₂ -Z ₅	< 150	High MW, suitable for foodstuffs and hygienic materials contact, like toothpaste and can coatings. It gives a very high flexibility to the finished product.

SOLID RESINS SPECIAL GRADES

PRODUCT	CHARACTERISTICS	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽¹⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽¹⁾	GARDNER VISCOSITY at 25°C ⁽²⁾	COLOUR (Pt/CoScale) ⁽²⁾	APPLICATIONS
EPOSIR® 7168 PGF	"Type-2,5" solid epoxy resin containing flow agents	600-730	1.369-1.666	K-R	< 150	Low MW BPA based solid epoxy containing of flow agents. Especially designed for formulation of decorative hybrid and pure epoxy powder coatings with excellent flow and gloss .
EPOSIR® 7170 PGF 10	BPA based masterbatch epoxy resin containing of flow agents	780-900	1.111-1.282	-	-	Low MW BPA based solid epoxy containing of flow agents. Suitable for use in powder coatings formulation. Suggested as masterbatch in combination with standard epoxy resins without flow agents .
EPONAC® 85	Novolac modified low MW solid epoxy resin	600-700	1.428-1.666	Q-U	< 200	Novolac modified solid epoxy resins for formulation powder provide coatings with enhanced anticorrosion properties and excellent chemical resistances. Especially designed in combination with phenolic curing agents such as SIRION® VP 208 X series for pipe coatings and internal drums lining .

(1) Test method ISO 3001 (2) Determined on 40% m/m Butyl carbitol solution (3) Test Method ASTM D445 (4) Gardner Scale Test Method ASTM D1544 (5) To be combined with EPOSIR 7161 75 XL or EPONAC 5007 75 X (6) Value refers to solid material (7) Solvent ratio: Butanol/Toluene 1:1

SOLID EPOXY CURING AGENTS (Phenolic Hardeners)

SIRION	MELTING RANGE	HYDROXYL EQUIVALENT WEIGHT (g/eq.)	GARDNER VISCOSITY at 25°C	REACTIVITY	CHARACTERISTICS / APPLICATIONS
VP 2080	60-70 °C	250+/-30	H-M	+	SIRION® VP 2080 is a Phenolic Hardener based on unmodified solid reaction product of liquid epoxy resin (LER) and BPA containing a polyacrylate flow modifier and curing accelerator. Designed for Powder Coating is totally compatible with Epoxy Resins. Preferred application for good flow decorative, protective and high gloss powder coating. Moderate reactivity.
VP 2081	60-70 °C	250+/-30	H-M	++	SIRION® VP 2081 is a Phenolic Hardener based on unmodified solid reaction product of liquid epoxy resin (LER) and BPA containing a polyacrylate flow modifier and curing accelerator. Designed for Powder Coating is totally compatible with Epoxy Resins. Preferred application for good flow decorative, protective and high gloss powder coating. Medium reactivity.
VP 2082	60-70 °C	250+/-30	H-M	+++	SIRION® VP 2082 is a Phenolic Hardener based on unmodified solid reaction product of liquid epoxy resin (LER) and BPA containing a polyacrylate flow modifier and curing accelerator. Designed for Powder Coating is totally compatible with Epoxy Resins. Can be formulated into protective or decorative powder coating. Relative high reactivity.
VP 2083	60-70 °C	250+/-30	H-M	++++	SIRION® VP 2083 is a Phenolic Hardener based on unmodified solid reaction product of liquid epoxy resin (LER) and BPA containing a polyacrylate flow modifier and curing accelerator. Designed for Powder Coating is totally compatible with Epoxy Resins. Very high reactivity.
VP 2084	60-70 °C	250+/-30	H-M	++	SIRION® VP 2084 is a Phenolic Hardener based on unmodified solid reaction product of liquid epoxy resin (LER) and BPA containing curing accelerator. Designed for Powder Coating is totally compatible with Epoxy Resins. Can be formulated into protective or decorative powder coating. Medium reactivity.
VP 2085	60-70 °C	250+/-30	H-M		SIRION® VP 2085 is a Phenolic Hardener based on unmodified solid reaction product of liquid epoxy resin (LER) and BPA. Designed for Powder Coating is totally compatible with Epoxy Resins. Can be formulated into protective or decorative powder coating. The product contain no curing accelerator and no flow modifier. It is useful for optimizing the reactivity of powder coating formulation which already contain a curing accelerator.

CYCLOALIPHATIC LIQUID EPOXY RESINS

SIRION	CHARACTERISTICS / APPLICATIONS	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽¹⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽¹⁾	DYNAMIC VISCOSITY at 25°C (mPa.s)	COLOUR GARDNER ⁽⁵⁾
CE 2304	Cyclohexane-dimethanol diglycidyl ether, modifier for epoxy systems Provides excellent cured state resistance to creep or deformation under stress in epoxy reinforced systems.	160-190	5.263-6.250	60-120	≤ 2
CE 2308	Hydrogenated BPA resin (HBPADGE), modifier for epoxy systems with very good outdoor exposure resistance. Lower reactivity than DGEBA resins.	230-260	3.846-4.348	4.000-8.000	≤ 2
CE 2310	3, 4 -Epoxy cyclohexyl methyl - 3, 4-epoxy cyclohexyl carboxylate. Suitable for cationic UV cured coatings and overprint varnishes on metal, plastics, wood in combination with polyacid and anhydride for oven cured epoxy systems with excellent electrical properties, high HDT and good weathering highly effective agent co-stabilizer for PVC.	130-150	6.666-7.692	200-450	≤ 1

(1) Test method ISO 3001 (2) Determined on 40% m/m Butyl carbitol solution (3) Test Method ASTM D445
 (4) Gardner Scale Test Method ASTM D1544 (5) To be combined with EPOSIR 7161 75 XL or EPONAC 5007 75 X
 (6) Value refers to solid material (7) Solvent ratio: Butanol/Toluene 1:1



SOLUTION GRADES

EPOSIR	CHARACTERISTICS	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽²⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽²⁾	SOLID CONTENT (%)	SOLVENT	APPLICATIONS
7120 BC 90 MK	Standard low MW DGEBA solution in Methyl ethyl ketone	182-192	5.208-5.495	89-91	Methyl ethyl ketone	Epoxy pre pregs and composite materials.
7134 80 XL	Semisolid low MW BPA epoxy resin solution in Xylene	230-270	2.127-4.348	79-81	Xylene	Suggested for formulation of adhesives fibre reinforced composite materials such as epoxy pre pregs and laminates. Suitable for formulation of coatings with improved adhesion and impact strengths. General purpose primers.
7136 80 XL	Slightly higher MW and viscosity version of EPOSIR® 7134 80 XL	300-350	2.856-3.333	79-81	Xylene	Similar to EPOSIR® 7134 80 XL with slightly higher viscosity and better flexibility.
7161 75 XL	EPOSIR® 7161 solution in Xylene	440-470	1.538-1.686	74-76	Xylene	Suggested in combination with suitable hardeners for formulation of general purpose primers for metallic surfaces and anticorrosion paints with excellent resistance to chemical agents, solvents and water.
7161 75 MP	EPOSIR® 7161 solution in Methoxypropano	440-500	2.000-2.272	74-76	Methoxypropanol	Similar application to EPOSIR® 7161 75 XL .
7161 75 BK	EPOSIR® 7161 solution in Methyl isobutyl ketone	450-480	2.083-2.222	74-76	Methyl isobutyl ketone	Suitable also for fibre reinforced composite materials .
7161 70 MK	EPOSIR® 7161 solution in Methyl ethyl ketone	460-520	1.923-2.173	69-71	Methyl ethyl ketone	Designed for formulation of epoxy resins pre pregs and fibre reinforced epoxy laminates for composite materials and electrical applications.
7170 50 BC SA	EPOSIR® 7170 solution in Butyl glycol/Naphtha solvent	800-900	1.111-1.250	49-51	Butyl glycol/Naphtha solvent	Suitable for formulation of anticorrosion coatings for metallic surfaces and industrial applications. Suggested in blend with EPOSIR® 7161 solution to improve flexibility.
7180 50 DK XL	Standard " Type-7 " epoxy BPA based solution in Diacetone alcohol/Xylene	1.700-2.100	476-588	49-51	Diacetone alcohol/Xylene	High MW, suitable for foodstuffs and hygienic materials contact, like toothpaste and can coatings.
7180 40 BC SA	Standard " Type-7 " epoxy BPA based solution in Butyl glycol/Naphtha solvent	1.500-2.000	500-666	40-42	Butyl glycol/Naphtha solvent	High MW, suitable for foodstuffs and hygienic materials contact, like toothpaste and can coating.
7183 45 BC/BGA	Bisphenol A based solid resin, with high epoxy equivalent weight.	1.450-1.750	569-689	44-46	Butylglycol/Butyl glycol Acetate	For can coating stoving lacquers.
7192 40 BC SA	Standard " Type-9 " epoxy BPA based solution in Butyl glycol/Naphtha solvent	2.500-3.300	303-400	39-41	Butyl glycol/Naphtha solvent	Higher MW with better flexibility. Suitable for foodstuffs and hygienic materials contact, like toothpaste and can coatings.
9134 90 XL	Modified BPA based epoxy resin solution in Xylene	230-260	3.846-4.347	88-90	Xylene	High-solids solvent borne coatings with low V.O.C. Typical end-uses include anticorrosion coatings for the protection of steel and concrete.

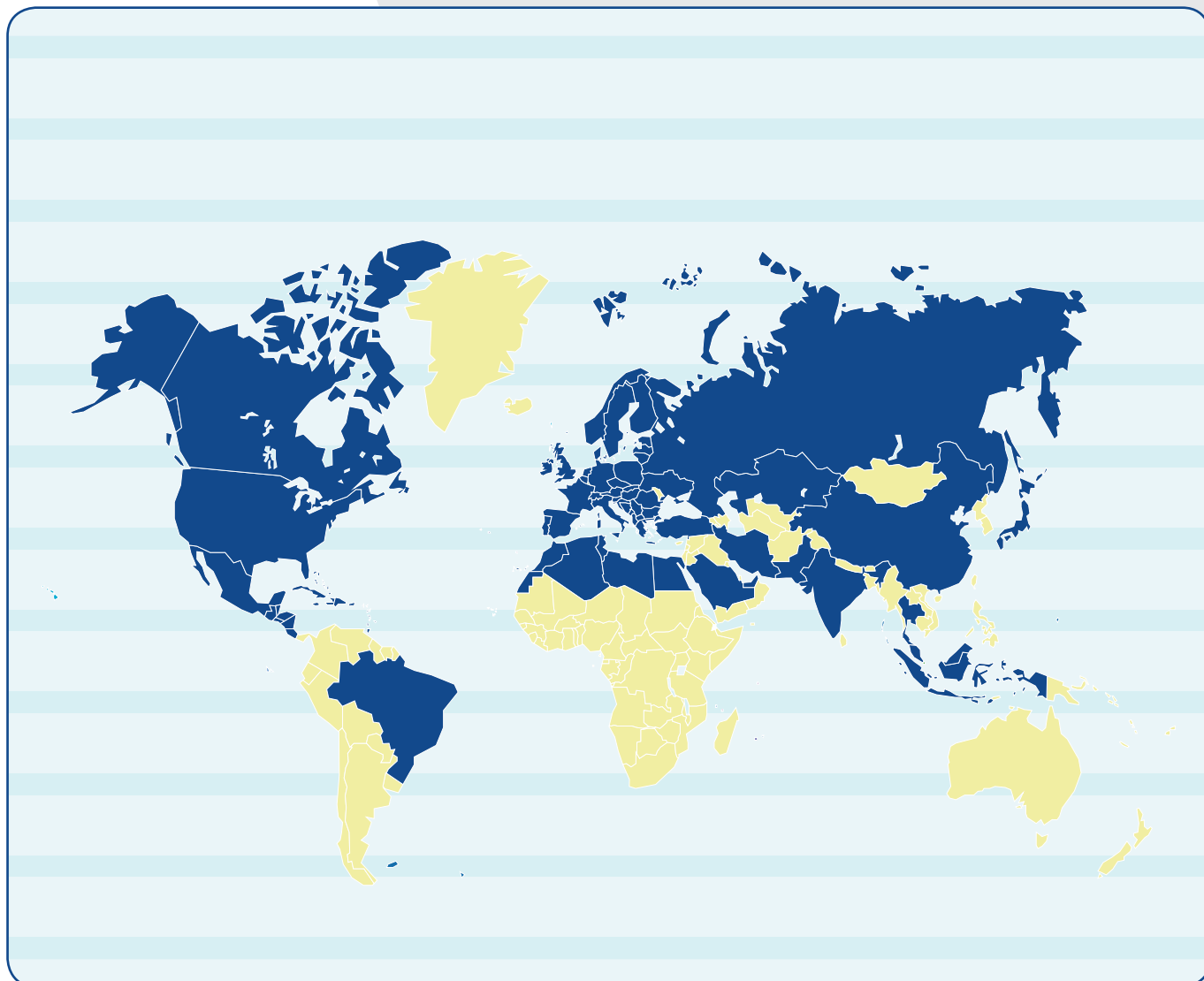
(1) Test method ISO 3001 (2) Determined on delivery form with reference to solid material

SOLUTION GRADES

EPONAC	CHARACTERISTICS	EPOXY EQUIVALENT WEIGHT (g/eq.) ⁽²⁾	EPOXY GROUP CONTENT (mmol/kg) ⁽²⁾	SOLID CONTENT (%)	SOLVENT	APPLICATIONS
5007 75 X	EPONAC® 5007 solution in Xylene	450-500	2.000-2.222	74-76	Xylene	Suggested in combination with suitable hardeners for general purpose primers, metallic surfaces and anticorrosion paints with excellent resistance to chemical agents, solvents and water.
5007 75 T	EPONAC® 5007 solution in Toluene	450-500	2.000-2.222	74-76	Toluene	Suggested in combination with suitable hardeners for general purpose primers, metallic surfaces and anticorrosion paints with excellent resistance to chemical agents, solvents and water agents.
5007 75 BK	EPONAC® 5007 solution in Methyl isobutyl ketone	450-500	2.000-2.222	74-76	Methyl isobutyl ketone	Suitable also for fibre reinforced composite materials.
2065 50 XD	EPONAC® 2065 solution in Xylene – diacetone alcohol	1.700-2.100	476-588	49-51	Xylene-diacetone alcohol	High MW, suitable for foodstuffs and hygienic materials contact, like toothpaste and can coatings.
2065 40 BGS	EPONAC® 2065 solution in Butyl glycol/Naphtha solvent	1.500-2.000	500-666	39-41	Butylglycol/Naphthalic solvent	High MW, suitable for foodstuffs and hygienic materials contact, like toothpaste and can coatings.
2065 50 MX	EPONAC® 2065 solution in Methoxy propylacetate – Xylene	1.600-2.100	476-625	49-51	Methoxy propylacetate -Xylene	High MW, suitable for foodstuffs and hygienic materials contact, like toothpaste and can coatings.
4085 40 BGS	EPONAC® 4085 solution in Butyl glycol/Naphtha solvent	2.500-3.300	303-400	40-42	Butylglycol/Naphtha solvent	Higher MW with better flexibility. Suitable for foodstuffs and hygienic materials contact, like toothpaste and can coatings.

(1) Test method ISO 3001 (2) Determined on delivery form with reference to solid material

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