

“Precision chemistry for perfect protection.”

CAN COATINGS

UNLOCKING THE FUTURE OF
SUSTAINABLE PACKAGING





It is impossible to imagine our everyday life without it and it can be found in every supermarket: the tin can - indestructible container for food of all kinds. The can owes its entry into almost every household shelf in the world to none other than Napoleon Bonaparte.

To prevent any interaction between the metal wall and the actual contents of the can, an inner coating of the cans is essential. This must be particularly efficient and be characterised by high elasticity and resistance. This means that even if the can is dented, the food inside remains well protected. For years, epoxy resin-based products have established themselves as the industry standard. However, these have been the subject of public debate for some time due to their harmful raw material base bisphenol-A (BPA).

This is where VARENA and its CAN COATING division come into play: With VARAPOL HM high molecular polyester and VARADUR blocked polyisocyanates, we have developed a crosslinker that enables polyurethane-based interior can coatings.



BPA-NI-, thanks to our innovation we can!

"A good example is our work in developing tailor-made BPA-NI products that meet the increasingly stringent regulations for metal applications. Our new polyester range, designed for food contact, is able to replace epoxy products with BPA.

Our products are used in gold, clear and white internals for all types of cans and closures. Many developments are linked to various regulatory issues. For example, there is an increasing requirement to remove materials such as naphthalene and tin.

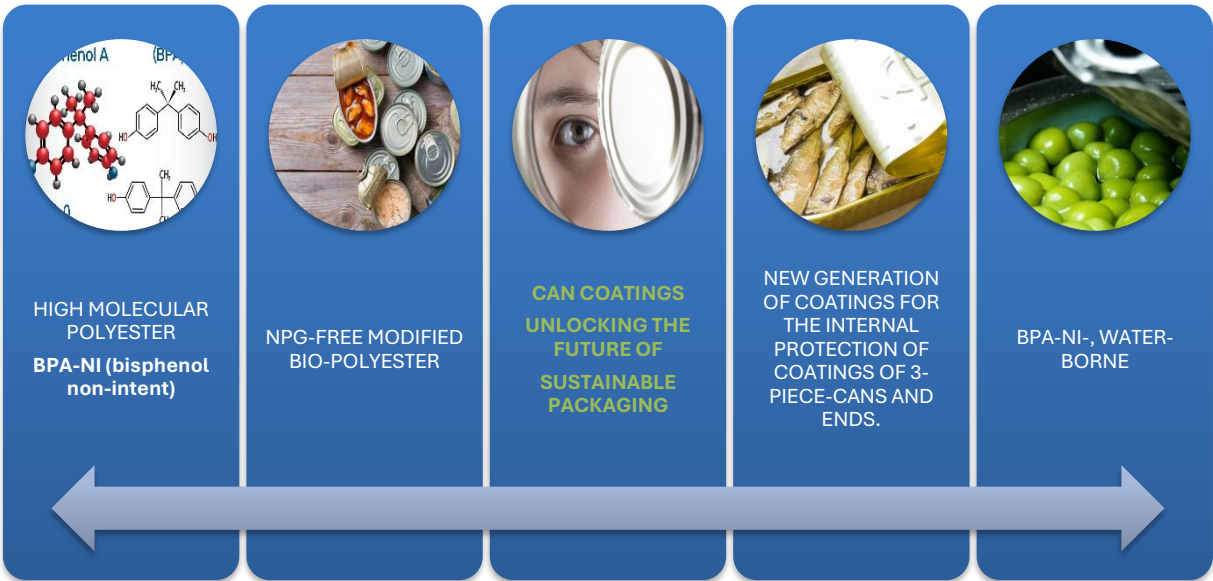


Polyester for the interior coating of cans with excellent protective properties !

New Generation of coatings for the internal protection of food 3 piece cans and ends.



CAN COATINGS SOLUTION



New Generation of coatings for the internal protection of food 3 piece cans and ends.

BPA-NI-



Typical requirements for general coatings

- Sufficient reactivity
- Good substrate adhesion
- Blocking resistance
- Surface hardness
- Durability
- Appearance

Additional requirements for can coating lacquers

- Sufficient flexibility for can forming process
- High sterilization resistance even vs. acidic or alkaline media
- Conform to FDA approved for interior & exterior food cans.**



High-Performance Polymers and Additives for
Metal Packaging Coatings

“Precision chemistry for perfect protection.”

VARENA CHEMICAL offers a wide range of SPECIAL RESINS for food contact packaging coatings. Our paint binders are the products of choice for every paint layer on pre-coated rigid metal containers for food and nonfood applications. They combine superior protection properties with high flexibility, sterilization resistance, film hardness and scratch resistance.



VARENA CAN COATING SOLUTIONS

Raw materials for can coating improve resistance, adhesion, flexibility

VARENA CHEMICAL offers a diverse range of solvent based and water-born, HM (High Molecular) and MM (Medium Molecular) polyester and raw materials for interior and exterior food packaging applications, base coats, 2-piece and 3-piece cans, OPV (Over Print Varnish) and clear coats.



Internal Coating

In addition to conventional epoxy resin, we have RESIN FOR BPA-reduced coating and BPA-NI coating.

BPA-NI? Thanks to our innovation, yes we can!

Polyesters for interior can coating solutions

with excellent protective properties as migration of Bisphenol A

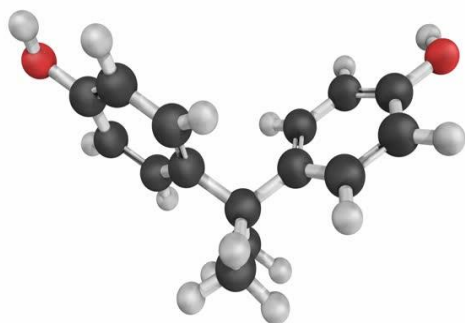


Product Synopsis

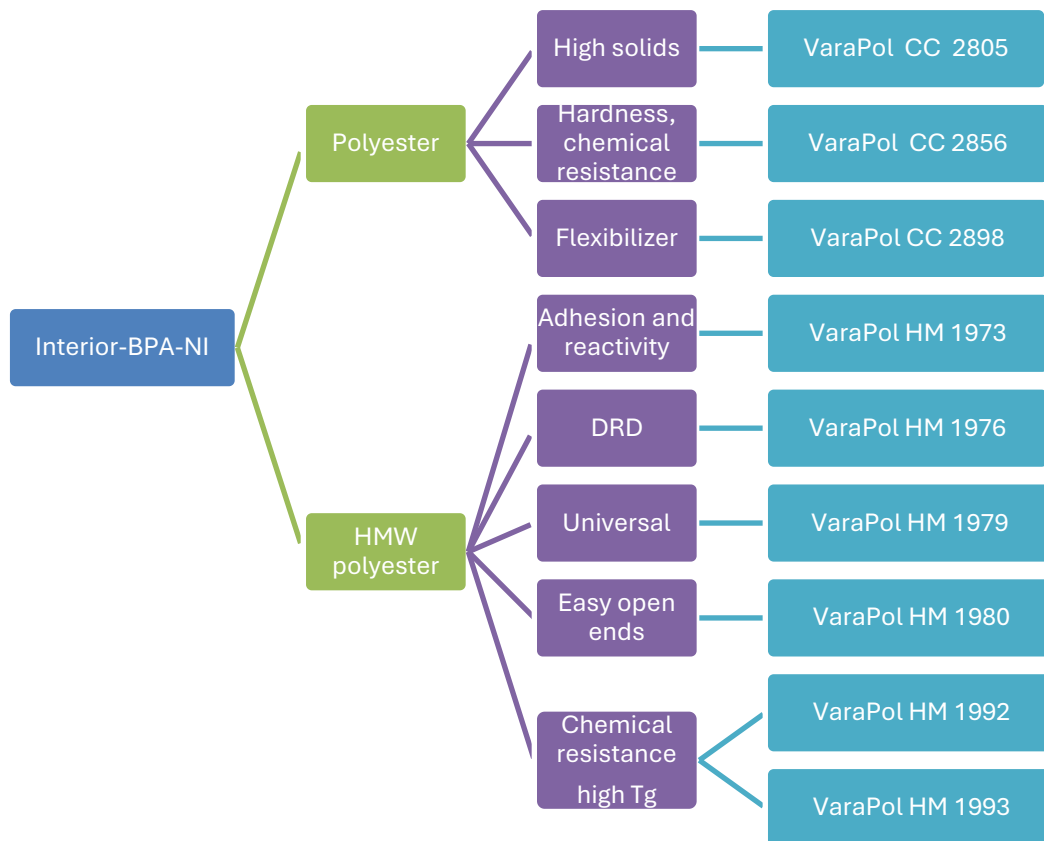
- Coatings for aluminum tubes
- Coatings for monobloc aerosol cans
- Coatings for steel beverage cans
- Coatings for technical packaging
- Coatings for crown corks
- Coatings for 3-piece aerosol cans
- Coatings for 2- and 3 piece food cans
- Coatings for lug caps
- Coatings for pilver proof srew caps
- Coatings for long caps
- BPA-n.i. portfolio
- BPA-n.i. portfolio coatings for coil application

VaraPol CC polyester resins serve versatile coating solutions for metal packaging containers.

Our high molecular weight polyesters – **VaraPol HM 1970, HM 1971 and HM 1973, HM 1976 and HM 1978**– are leading to coatings with excellent media resistance.

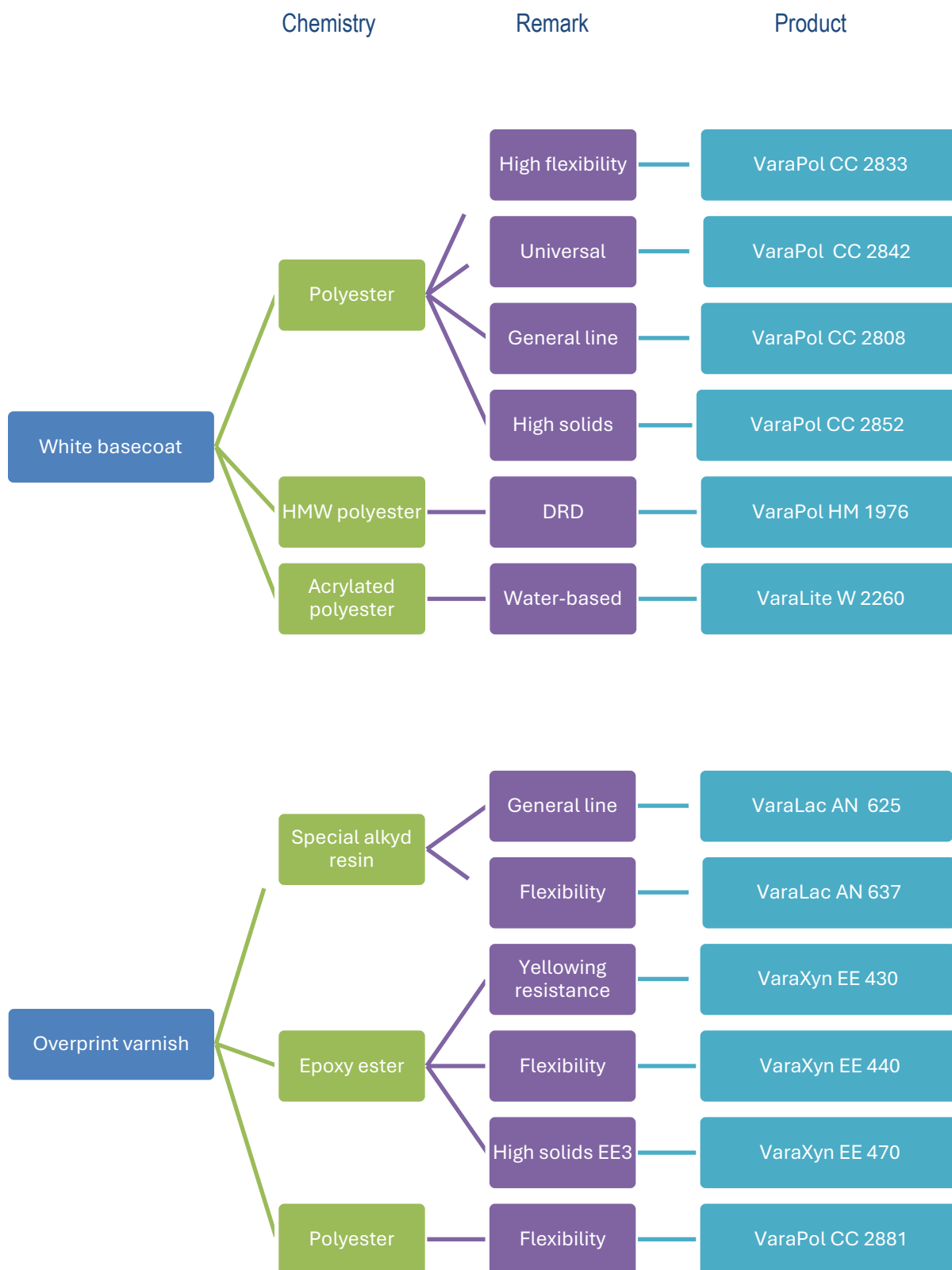


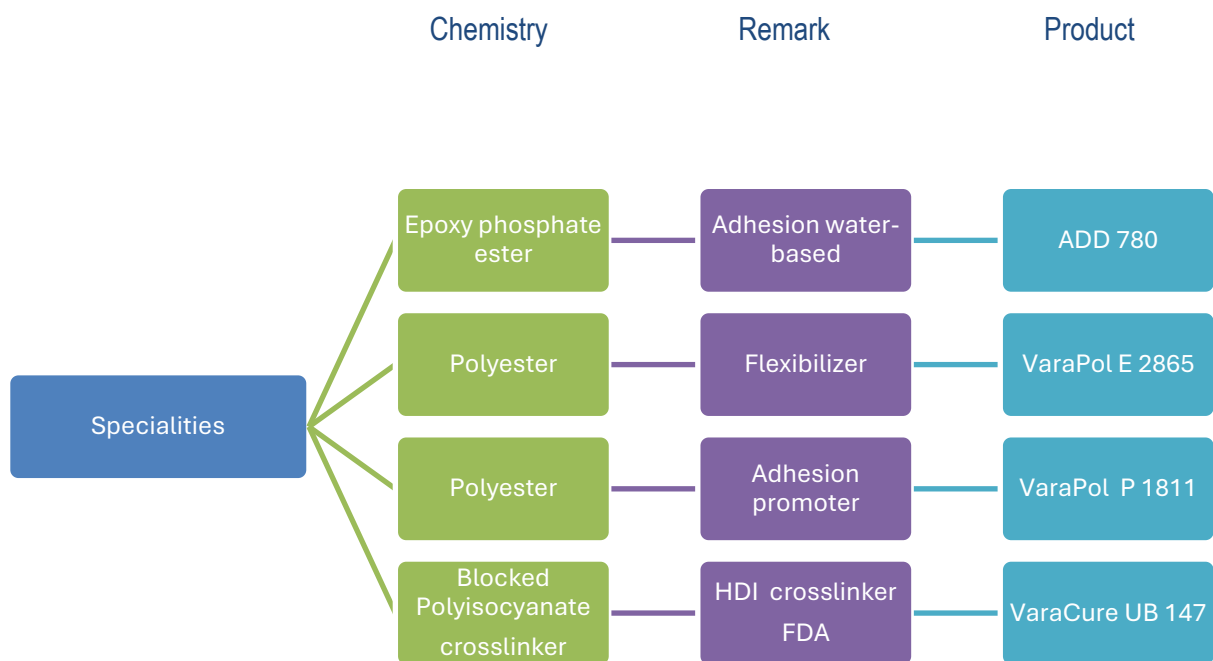
Polyesters for interior can coating solutions with excellent protective properties as migration of Bisphenol A

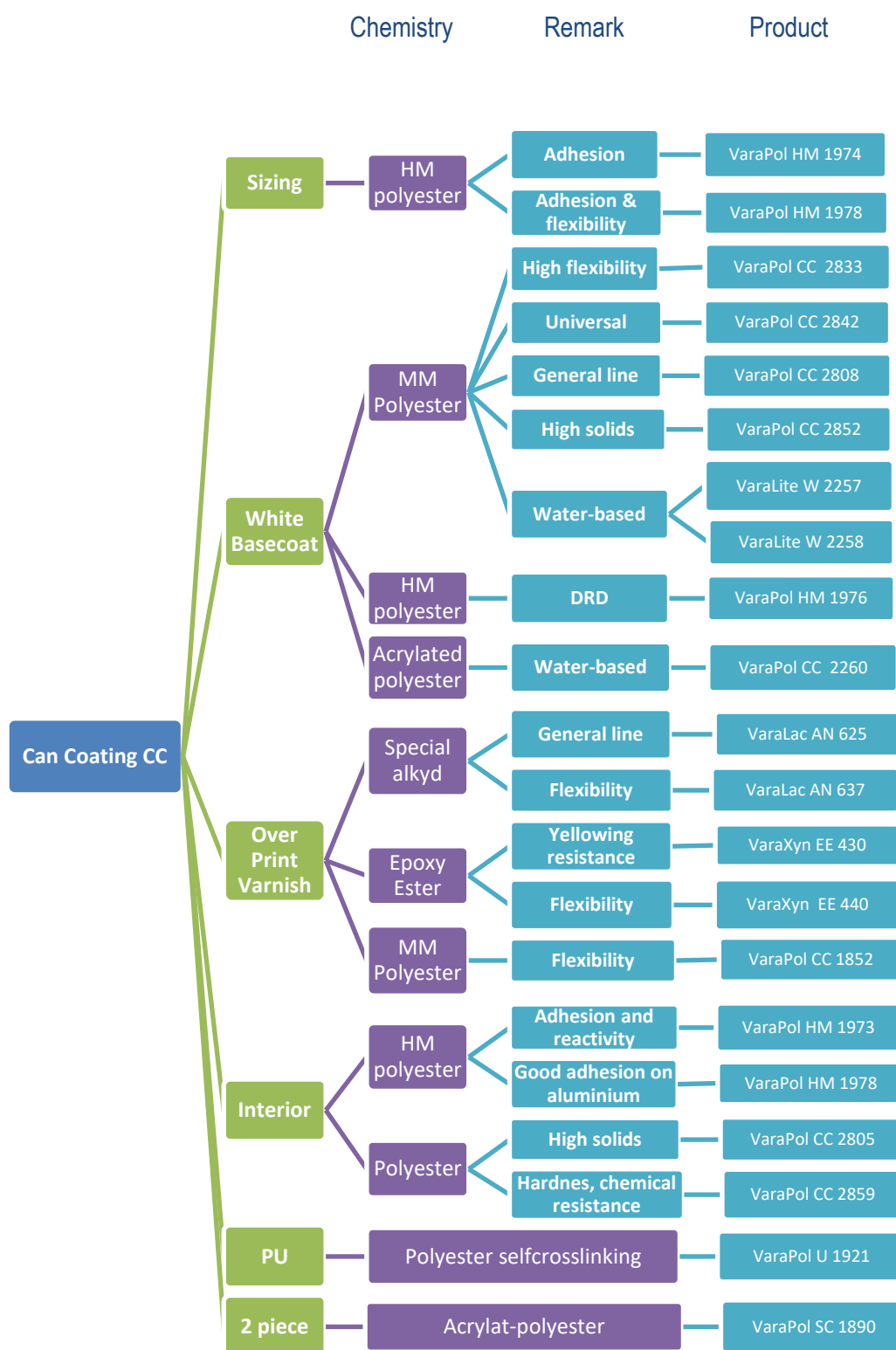


Advanced polymer technologies for can coating-BPA-NI

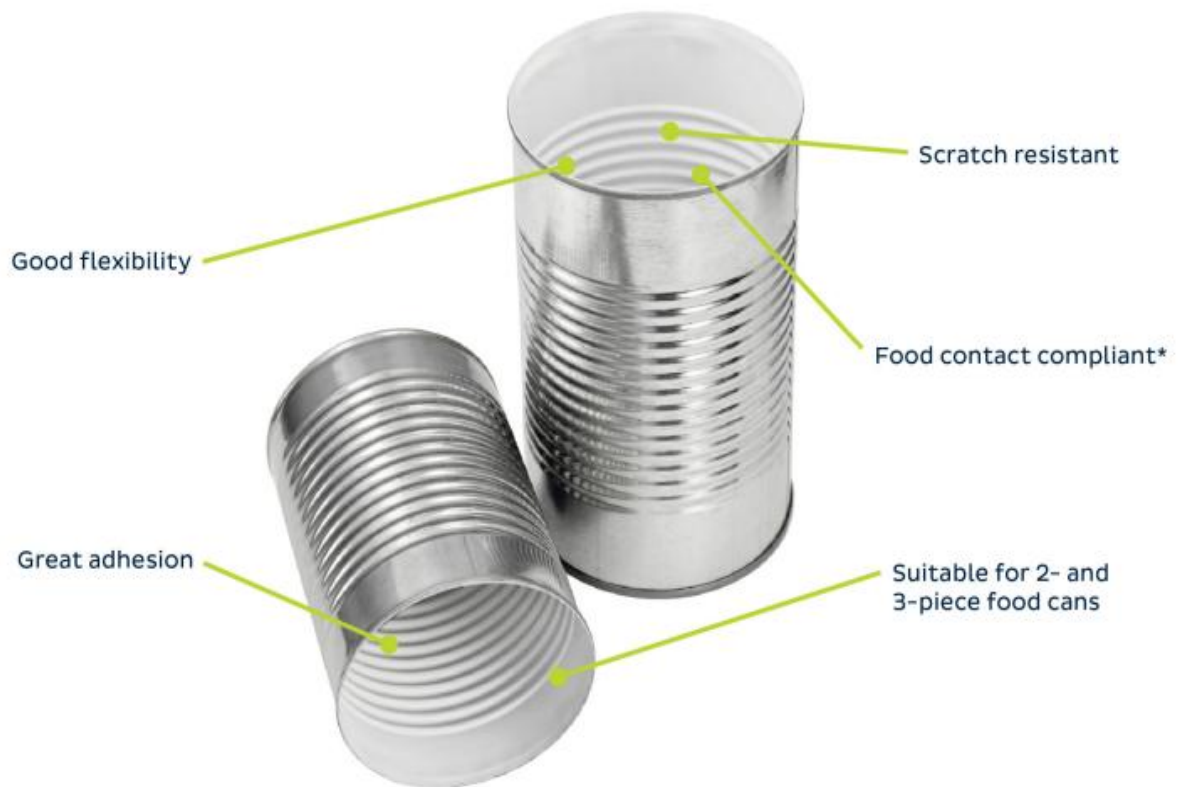








VARENA's copolyesters are available in solid or solvated form for use in a variety of applications, including flexible packaging and heat seal lidding. VARENA's RESINS "VaraPol" and "VaraLite" for interior can coating formulations comply with FDA regulations for direct food contact and do not contain potentially hazardous BPA (Bisphenol A) in their manufacturer. VARENA's copolyester resins allow formulations to customize the levels of performance, such as flexibility and chemical resistance, while being organoleptically neutral.



When formulated with a cross-linker, melamine, benzoguanamine and blocked polyisocyanate, VARENA's polyester offer excellent adhesion, chemical resistance and superior acid resistance. Additionally, our VARAPOL maintain integrity under aggressive retort conditions.



BPA-NI? Thanks to our innovation, yes we can!

COATING FOR ALUMINIUM TUBES

VaraPol CC 2842 (saturated linear polyester)
VaraPol CC 2808 (saturated linear polyester)
VaraPol CC 1865 (saturated branched polyester)
VaraPol CC 2825 (saturated linear polyester)
VaraPol SB 1924 (isocyanate modified polyester)
VaraXyn EE 480 (FDA approved, epoxy ester, water soluble)



External Coatings

- White enamel, (PUR)
- White enamel, (PUR) matt
- White enamel, (PES)
- Clear external coating (PES)
- White enamel

Internal Coatings

- Internal liner, gold
- Internal liner, beige
- Sealing compound, grey

COATINGS FOR MONOBLOC AEROSOL CANS

VaraPol CC 2842 (saturated linear polyester)

VaraPol CC 2825 (saturated linear polyester)

VaraPol CC 2808 (saturated linear polyester)

VaraXyn EE 430 (epoxy ester)

VaraXyn EE 440 (epoxy ester)

VaraLite W 2250 (water-based polyester)

VaraPol HM 1978 (BPA-NI high molecular polyester)

VaraXyn EE 480 (FDA approved, epoxy ester, water soluble)

External Coatings

- White basecoat
- White basecoat; clearcoat
- Overvarnish, clearcoat
- Overvarnish, full-matt
- Overvarnish, semi-matt

Internal Coatings

- Epoxy phenole internal liner, gold
- High molecular polyester



COATINGS FOR STEEL BEVERAGE CANS B&B

VaraPol SC 1893 (acrylic modified polyester)
VaraLite W 2260 (BPA-NI, water-based polyester)
VaraLite W 2250 (BPA-NI, water-based polyester)
VaraLite W 2255 (BPA-NI, water-based polyester)
VaraPol SC 1890 (BPA-NI, acrylic modified polyester)



External Coatings B&B

Our VaraPol SC an acrylic modified polyester and VaraLite water-borne polyester for external coatings protect the outside of the can body and ends through aggressive retorts, whilst retaining the attractive appearance of the finished can.

COATINGS FOR TECHNICAL PACKAGING

VaraPol CC 2842 (saturated linear polyester)
VaraPol CC 2808 (saturated linear polyester)
VaraLac AN 621 (alkyd modified resin)
VaraLac AN 637 (alkyd modified resin)
VaraXyn EE 430 (epoxy ester)
VaraXyn EE 440 (epoxy ester)
VaraXyn EE 480 (FDA approved, epoxy ester, water soluble)



External Coatings

- White basecoat, clearcoat
- White basecoat
- Overvarnish
- Clear protective, clearcoat

Internal Coatings

- Clear protective, clearcoat

COATINGS FOR CROWN CORKS

VaraPol CC 2808 (saturated linear polyester)

VaraPol CC 2852 (saturated polyester)

VaraPol CC 2802 (saturated reactive linear polyester)

VaraPol PM 829 (polyester resin modified with phenolic resin)

VaraPol PM 832 (polyester resin modified with phenolic resin)

VaraXyn EE 440 (epoxy ester)

VaraXyn EE 430 (epoxy ester)



External Coatings

- White basecoat
- Clearcoat
- Overvarnish
- Gold varnishes

COATINGS FOR 3-PIECE AEROSOL CANS

VaraXyn EE 470 (epoxy ester)

VaraPol CC 2808 (saturated linear polyester)

VaraPol CC 2825 (saturated polyester)

VaraPol CC 2859 (FDA approved raw materials, also for alcoholic content)

VaraPol HM 1974 (BPA-NI high molecular polyester)

VaraPol HM 1978 (BPA-NI high molecular polyester)



External Coatings

- Sizing coat
- White basecoat
- Overvarnish

Internal Coatings

- Gold lacquer

COATINGS FOR 2- AND 3-PIECE FOOD CANS

VaraXyn EE 470 (epoxy ester)

VaraPol CC 2808 (saturated linear polyester)

VaraPol CC 2859 (FDA approved raw materials, also for alcoholic content)

VaraPol SC 1890 (acrylic modified polyester)

VaraPol HM 1978 (BPA-NI high molecular polyester)

VaraPol HM 1970 (BPA-NI high molecular polyester)

VaraDur HA 115 (FDA approved)

VaraXyn EE 480 (FDA approved, epoxy ester, water soluble)



BPA-NI? Thanks to our innovation, yes we can!

External Coatings

- White basecoat
- Overvarnish
- Gold lacquer
- Clear protective coating

Internal Coatings

- Gold lacquer
- Alu pigmented EP lacquer

COATINGS FOR LUG CAPS

VaraLac AN 621 (alkyd modified)

VaraPol CC 2852 (saturated polyester)

VaraLac AN 637 (alkyd modified)

VaraPol CC 2808 (saturated linear polyester)

VaraPol HM 1974 (BPA-NI high molecular polyester)

VaraPol HM 1978 (BPA-NI high molecular polyester)



External Coatings

- Clear sizcoat
- Overvarnish
- White basecoat
- Basecoat in different colors

COATINGS FOR PILVER PROOF SREW CPAS

VaraXyn EE 430 (epoxy ester)

VaraXyn EE 440 (epoxy ester)

VaraXyn EE 480 (FDA approved, epoxy ester, water soluble)

VaraLac AN 621 (alkyd modified)

VaraLac AN 637 (alkyd modified)

VaraPol CC 2808 (saturated linear polyester)



External Coatings

- Overvarnish, epoxy ester
- Overvarnish, polyester

COATINGS FOR LONG CAPS

VaraXyn E E 430 (epoxy ester)

VaraXyn EE 440 (epoxy ester)

VaraLac AN 621 (alkyd modified)

VaraLac AN 637 (alkyd modified)

VaraPol CC 2808 (saturated linear polyester)

VaraPol HM 1974 (BPA-NI high molecular polyester)

VaraPol HM 1978 (BPA-NI high molecular polyester)



External Coatings

- Clear sizcoat
- Overvarnish
- White basecoat
- Overvarnish, semi matt
- Side wall varnish
- Black basecoat

BPA-N.I. PORTFOLIO COATINGS FOR COIL APPLICATION

VaraPol SC 1890 (BPA-NI, acrylic modified polyester)

VaraPol CC 2808 (saturated linear polyester)

VaraPol CC 2852 (saturated polyester)

VaraPol CC 2805 (saturated branched polyester)

VaraPol HM 1974 (BPA-NI high molecular polyester)

VaraPol HM 1978 (BPA-NI high molecular polyester)



END External



END Internal

BPA-N.I. 2PC DRD COATINGS, FAEOE

VaraPol HM 1976 (BPA-NI, high molecular polyester)



DRD Internal



DRD Internal



DRD External



Coating resins for cans & containers

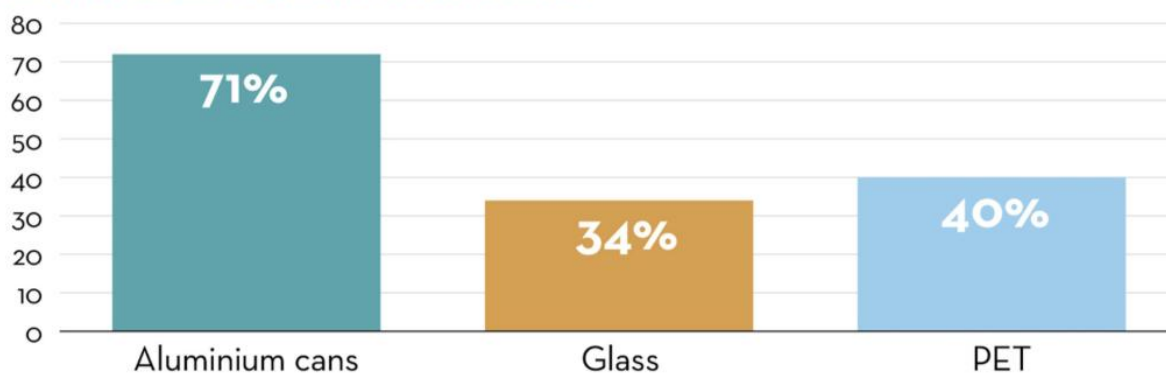
In metal cans and other rigid metal packaging, our broad range of saturated polyester coating resins is helping the industry move away from suspect raw materials and replace them with more sustainable alternatives.

All this while staying true to our long-established reputation in this business for durable and highly adhesive resins that are flexible enough to work with a wide range of different products – while enabling the high line speeds that are so important to manufacturers. From caps and closures to aerosols, and from tubes to both two-piece and three-piece cans, our resins for white base coat and overprint varnish can do the job

CAN COATINGS: UNLOCKING THE FUTURE OF SUSTAINABLE PACKAGING

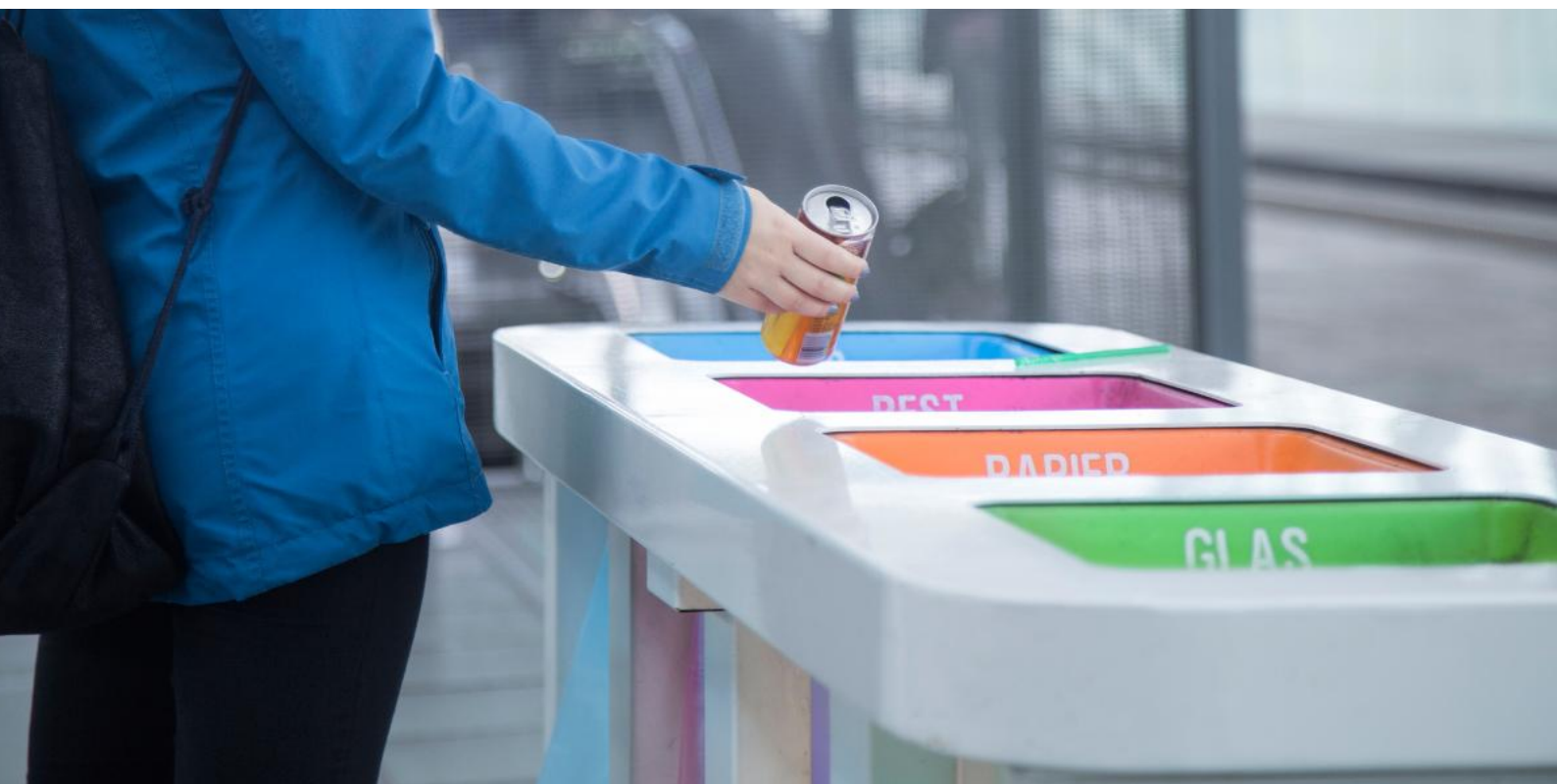
Sustainability and performance benefits are at the heart of the shift towards metal packaging for beverage producers, with brand owners choosing cans over alternatives in increasing numbers.

RECYCLING RATES (WEIGHTED AVERAGE)



Regional difference can be explored at alucycle.international-aluminium.org

Over 70 percent of all aluminum cans are recycled globally.



Metal cans are coated with a thin layer that protects the integrity of the cans, enabling them to hold the food or beverage.

VaraPol; SATURATED SOLVENT-BASED POLYESTER

Product	Delivery Form [%]	Viscosity [mPa.s/23°C]	Acid Value [mg KOH/g]	Tg [°C]	Mn	OH-Value [mg KOH/g]	Description
HM 1971	50 in S2/F	3000 - 5000	0 - 3	67	15000	10	High molecular weight polyester resin, BPA-NI, flexibility, adhesion on HDG and aluminium, corrosion resistance.
HM 1973	40 in S1/E5	3800 - 4700	8 - 10	65	20000	7	High molecular weight polyester resin, BPA-NI, flexibility, adhesion on HDG and aluminium, corrosion resistance, conform to FDA approved for interior cans.
HM 1974	40 in S1/E5	2900 - 3500	0 - 5	42	15000	7	High molecular weight saturated, BPA-NI, polyester. Good porosity & flexibility
HM 1976	40 in S1/E5	3500 - 4500	0 - 3	40	15000	7	High molecular weight saturated, BPA-NI, polyester. Good porosity & flexibility and compatibility.
HM 1978	50 in S1/E5	6800 - 8800	0 - 3	20	10000	12	High molecular weight saturated. BPA-NI, polyester. Good porosity & flexibility. For interior can coatings. conform to FDA approved for interior cans.
CC 2802	50 in D/S2	2400 - 3200	2 - 5	45	5000	50	High reactive saturated polyester resin specific for can and aerosols coating.
CC 2805	65 in S2/BG	2600 - 3600	4 - 8	0	3000	105	High reactive saturated polyester resin specific for high solid; can and coil coating; topcoat with high reactivity and for back coating. The product complies with the requirements of FDA 21 CFR § 175.300, Part vii polyester.
CC 2808	50 in S2/BG	2000 - 2800	2 - 5	28	5200	40	Can coating: white base coat and overprint varnish coil coating: outdoor durable coatings
CC 2880	55 in S2/S5	3500 - 5500	0 - 3	25	6000	30	Tin.free can coatings.



VaraPol; SATURATED SOLVENT-BASED POLYESTER

Product	Delivery Form [%]	Viscosity [mPa.s/23°C]	Acid Value [mgKOH/g]	Tg [°C]	Mn	OH-Value [mg KOH/g]	Description
CC 2825	50 in M1	4200 - 5500	8 - 10	50	5000	10	Can coating: aerosol cans collapsible tube coatings.
CC 2833	55 in S2 ND	3600 - 4600	3 - 5	32	6000	22	Can coating: general purpose and twist off closures.
CC 2842	60 in S2	14000 - 18000	5 - 10	25	5500	25	Recommended for tube coating; white base coat and 3-P-Cans & general line. Outstanding features of the resin include: flexibility (deep drawn), flexibility (cold crush) and flexibility (block resistance). FDA Compliance Binder (EU) 10/2011.
CC 2852	60 in S2/MPA	4500 - 6500	4 - 7	21	4300	45	Can coating: White base coat for general line Can coating: "gold-lacquer" for interior/exterior. Flexibility, sterilisation resistance – VARAPOL CC 2852 is based on FDA (according § 175.300) approved raw materials for non-alcoholic contents.
CC 2856	50 in S/BG	1400 - 2000	0 - 5	58	4000	55	Interior can coating, FDA-Approved (According paragraph 175.300, also for alcoholic content) - good adhesion on aluminium - good block and chemical resistance - hardness / abrasion resistance – reactivity.
CC 2857	70 in S1/BG	2700 - 3400	2 - 5	8	2500	50	High reactive saturated polyester resin specific for high solid; can and coil coating; topcoat with high reactivity and for back coating. The product complies with the requirements of FDA 21 CFR § 175.300, Part vii polyester.
CC 2859	50 in S2/BG	2400 - 3000	0 - 5	70	5500	47	Interior can coating, aluminium coil and foil for packaging, primers coil architectural. BPA-NI-FDA approved raw materials. (also for alcoholic content). Good adhesion on aluminium, reactive and hardness / abrasion resistance.



VaraPol; MODIFIED SOLVENT-BASED POLYESTER

Product	Delivery Form [%]	Viscosity [mPa.s/23°C]	Acid Value [mgKOH/g]	Tg [°C]	Mn	OH-Value [mg KOH/g]	Description
SC 1890	50 in S2/G3	800 - 1000	45 - 50	33	3100	35	Acrylic modified saturated polyester for can coating, 2-Pice, B&B.
SC 1893	65 in S2/G3	7500 - 8500	42 - 48	20	2700	17	Acrylic modified saturated polyester for can coating, 2-Pice, B&B.
SE 1901	55 in S2/G3	4500 - 5500	3 - 8	-	-	-	Epoxy modified saturated polyester resin for can coatings. Reactivity and adhesion to aluminium and tinplate.
SB 1921	55 in S1/S2/S4	5000 - 6500	6 - 10	25	5000	58	Selfcrosslinking saturated polyester resin with blocked isocyanate, for can and tube coatings applications with sterilization resistance; printability and flexibility.
SB 1950	60 in S2/S1/G3	2600 - 3100	0 - 4	9	4000	32	Saturated polyester with blocked isocyanate for topcoat and primer.
SQ 1871	60 in F/B	50 - 1500	2 - 6	-		35	Silicon modified saturated polyester resin, good exterior durable coil coatings (if mixed with compatible polyester resin).



VaraXyn; EPOXY ESTER

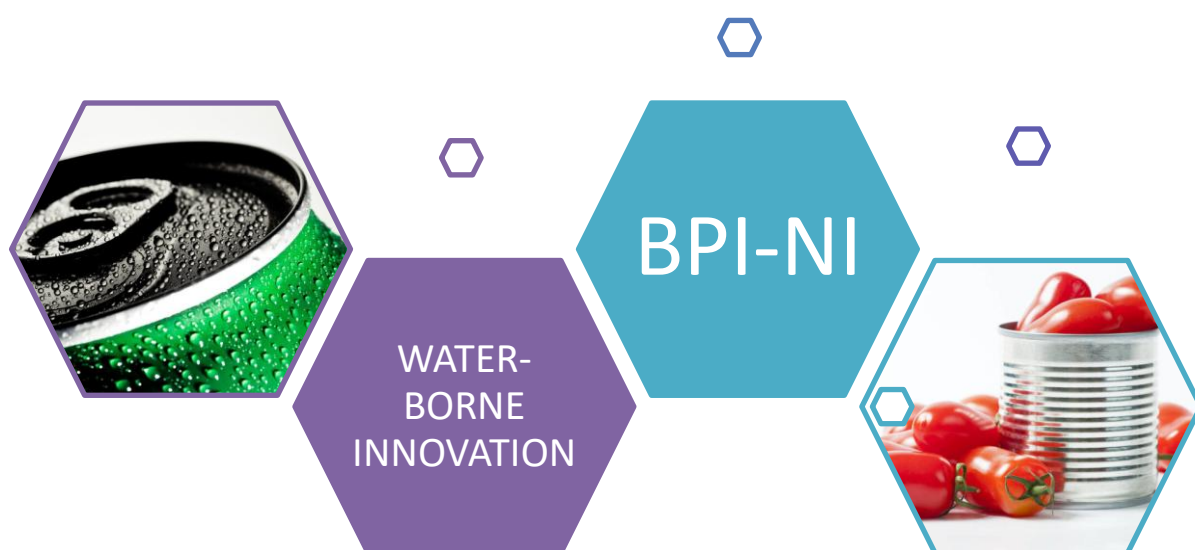
Product	Delivery Form [%]	Viscosity [mPa.s/23°C]	Acid Value [mgKOH/g]	Tg [°C]	Mn	OH-Value [mg KOH/g]	Description
EE 430	50 in S2	1800 - 2800	0 - 5	30	6000	-	Can coating, over print varnish
EE 440	50 in S2	2200 - 2800	0 - 4	0	6000	-	Can coating, over print varnish, collapsible tube enamels.
EE 470	57 in S2/G3	3400 – 4100	0 - 4	0	6000	-	For high solid over print varnish and 3-P-Cans & white base coats and printing inks.
EE 480	50 in DBE/Dowanol PM/ butyl glycol water soluble	3000 – 5000	70 – 80	-	-	-	Water soluble can coatings, interior coating, FDA approved according § 175.300.

COATINGS FOR STEEL AND METAL CASES



WATER-BORNE POLYESTER INNOVATION

We have a wide range of water-borne and solvent-borne; high molecular and solvent-free polyester resin technologies that when formulated into coatings provide an optimal performance and durability. Also we offers modified polyester resins; urethane modified, acrylic modified, epoxy modified, silicone modified polyester (SMP) resins, used in high quality, long life industrial finishes, light amature finishes and high performance primers.



VaraLite W; WATER-BORNE POLYESTER RESINS

Product	Delivery Form [%]	Viscosity [mPa.s/23°C]	Acid Value [mg KOH/g]	Tg [°C]	Mn	OH-Value [mg KOH/g]	Description
W 2250	M-40	2000 - 9000	50 - 55	31	3000	40	Water-borne saturated polyester for topcoat and primers.
W 2253	50 in G3/Z	900 - 1400	45 - 50	-10	900	-	Can coating, interior/exterior coatings, BPA-NI.
W 2258	70% in G3	10000 - 25000	50 - 60	30	4000	-	Can coatings.
W 2259	68 in G3/Z	2700 - 3500	45 - 50	33	3100	35	Water-borne saturated polyester for top coats and primers. Overback resistance.
W 2260	65 in G3	7000 - 11000	57 - 63	21	3000	40	Acrylic modified saturated polyester for B&B

VaraLac; SPECIAL MODIFIED ALKYD RESINS

Product	Delivery Form [%]	Viscosity [mPa.s/23°C]	Acid Value [mg KOH/g]	Tg [°C]	Mn	OH-Value [mg KOH/g]	Description
AN 621	60 in S2	8500 - 11000	5 - 10	0	3000	85	Short oil alkyd resin based on versatic acid, BPA-NI, for can coatings and clear overprint varnishes. Offers sterilization resistance.
AN 637	60 in S2	2500 - 4000	2 - 10	15	4500	25	Short oil alkyd resin based on versatic acid, BPA-NI, for can coatings and clear overprint varnishes. Offers sterilization resistance.

SPECIALITIES

Product	Delivery Form [%]	Viscosity [mPa.s/23°C]	Acid Value [mg KOH/g]	Description
ADD DD 780	73 in water/butylglycol/dimethylethanol amine	6900 - 11000	45 - 55	Adhesion promoter water based. Humidity, corrosion resistance, chemical resistance, stain resistance and pasteurization resistance.
ADD DD 790	72 in water/butylglycol/dimethylethanol amine	7000 - 10000	45 - 55	Adhesion promoter water based. Humidity, corrosion resistance, chemical resistance, stain resistance and pasteurization resistance.
ADD DD 795	65 in BG	1500 - 3000	120 - 135	Epoxy phosphate additive for stoving enamels.
VaraCure UB 147	75 in S1	2000 - 4000	-	HDI blocked aliphatic polyisocyanate crosslinker.
VaraCat T 600	72 in Iso-pro	10 - 100	125-135	Cat T 600 recommended to accelerate crosslinking of amino resins with polymers containing hydroxyl, carboxyl or amide functionality. It may be used as a replacement for less soluble acid catalysts, such as toluene sulfonic acid, in low alcohol containing finishes.

VaraMer; THERMOSETTING ACRYLIC RESINS

Product	Supply Form [%]	Viscosity [mPa.s/25°C]	Acid value on solid [mg KOH/g]	Description	1K
AC 285	41	3500 - 4500	77 - 80	Carboxyl functional acrylic resin, designed for crosslinking with epoxy resins.	X
AC 286	41	3500 - 4500	77 - 80	Carboxyl functional acrylic resin, designed for crosslinking with epoxy resins.	X

ABBREVIATIONS:

S1: Solvesso 100 - S2: Solvesso 150 ND - S4: Solvesso 200 ND - G3: Butylglycol - E5: Dibasis Ester - F: (PMA) Methoxypropylacetat - Z: Water - X: Xylene
 LP: Linear - BP: Branched - IB Isobutanol - B: n-Butanol - DBE: Dibasic Ester - MF: Melamin Formaldehyde - BF: Benzogunamine Formaldehyde - UF: Urea Formaldehyde. HMW: High molecular weight - BG: Butylglycol

VaraDur; EPOXY HARDENER FOR CAN COATINGS

Product	Delivery Form [%]	Viscosity [mPa.s/23°C]	Amine Value [mg KOH/g]	Pot-life [min.]	Mn	Theoretical Amine Hydrogen Equivalent Weight	Description
A 115	100	3500 - 4500 75°C	230 - 246	240	3000	198 [g/equl.]	A high viscosity, reactive polyamide resin designed for use with solid or liquid epoxy resins for flexible and resistant thermoset coating applications that cure at room temperature resistance. Conform to FDA approved.

VaraFen; PHENOL-FORMALDEHYD

Product	Delivery Form [%]	Viscosity [mPa.s/23°C]	Description
PR 312	80 in B	80 - 150	Curable phenolic resin. Used to formulate interior can coating systems.
L 319	42 in S2B	1500 - 2100	Precondensate of epoxy resin and partly butylated phenolic resin. Used in protective coatings, interior coatings for containers, boils, tube coating and injection spraying (tube lining). Offers chemical resistance, hardness and adhesion to steel, tinplate and aluminium.
L 332	50 in S2B	1800 - 2500	Saturated polyester resin modified with a phenolic resin. Used in interior lacquers for food cans and crown corks. Offers light color after stoving and deep drawing properties.
FB 209	57 in B	340 - 490	Non plasticized n-butylated phenolic resin. Used in interior can coating (gold varnishes) and general industrial chemical resistance enamels. Offers chemical resistance, hardness and compatibility with epoxy resins.
FB 210	60 in B	500 - 1000	Used in interior can coatings, gold varnishes and chemical resistant coatings. Offers chemical resistance and hardness.
PR 217	55 in B	100 - 200	Used in can and general coatings.

VaraTec PA; PVC ADHESION PROMOTOR

Product	Supply Form	Viscosity [mPa.s/23°C]	AMV [mg KOH/g]	Description	1K
PA 600	100	7000-10000 at 25°C	270-310	DOP free adhesion promoter for PVC plastisols mainly used in the automotive industry as underbody coating and bodysealer.	X
PA 601	100	1500-2500 at 25°C	360-390	Tec PA 601 is an DOP free adhesion promoter for PVC plastisols.	X
PA 605	100	1000-1500 at 75°C	370-400	An DOP free adhesion promoter for PVC plastisols mainly used in the automotive industry as underbody coating and bodysealer.	X

VaraMin; MELAMIN- & BENZOGUNAMIN FORMALDEHYDE

Product	Supply Form [%]	Viscosity [mPa.s]/23°C	Main uses and characteristics
BF 908	62 in B	100 – 300	Methylol type, reactive, n- butylated benzoguanamine formaldehyde resin in n-butanol, high flexibility and gloss and therefore suitable for can-, packaging coatings and automotive primers.
BF 992	68 in B	400 – 600	n- butylated benzoguanamine formaldehyde resin in n-butanol, non- plasticized. Medium reactivity benzoguanamine resins, recommended for top quality stoving enamels, excellent gloss, very good compatibility, e.g. can coating and automotive: primer surfacers. Conforms to US FDA CFR 21 § 175.300 and EU 10/2011.
MF 890	55 in IB/X	260 – 460	Methylol type, highly reactive, isobutylated melamine formaldehyde resin in isobutanol and xylene, for top quality stoving enamels, General industry: stoving enamels, general purpose, packing coatings and automotive primers and especially (CAB) base coats excellent gloss, very good compatibility.
MF 818	70 in B	700 – 1.200	Imino type, n- butylated melamine formaldehyde resin in n-butanol, very high reactivity melamine formaldehyde resin with very good compatibility, excellent sprayability, good petrol- and acid resistance, high gloss for general line, can coating and automotive with very flow and mechanical properties.
BF 960	60 in IB/B/X	100 – 300	Methylol type, reactive, n- butylated/isobutylated benzoguanamine formaldehyde resin for can coating and coil coating (backing coat), Very highgloss/gloss retention, excellent sprayability, Wide compatibility with saturated polyesters, excellent pigments wettability, high compatibility with acrylic resins for coil coating.
BG 941	61 in Iso-B/B/X	170 – 240	Methylol type, high reactive, n- butylated benzoguanamine formaldehyde resin in n-butanol and xylene. High reactivity benzoguanamine formaldehyde resin recommended for top quality stoving enamels, e.g. can and coil coatings and also automotive primers, excellent gloss, very good compatibility.
MF 942	70 in B	470 – 500	Methylol type, medium reactive, n- butylated benzoguanamine formaldehyde resin in n-butanol. Medium reactive BF 942/70B resin to be used, in combination with polyesters, acrylics and / or epoxies, for exterior and interior can coatings, either base-coats or OPV. The main properties of BF 942 are: high gloss; good sterilization resistance; good flexibility; good over-baking fastness. Conforms to US FDA CFR 21 § 175.300 and EU 10/2011, Annex 1.
BF 991	77 in S2/B	10.000 – 18.000	n- butylated benzoguanamine formaldehyde resin in n-butanol and solvesso 150, non-plasticized low/medium reactivity benzoguanamine resins, recommended for top quality stoving enamels, excellent gloss, very good compatibility. Very high gloss/gloss retention, mechanical properties, Sterilization resistance and low/medium reactivity.





ADDITIVES FOR CAN COATINGS

The property requirements for can coatings are diverse. Chemical resistance and ductility are just two examples.

Areas of application include coatings for metal packaging (beer and beverage cans, food cans, crowns, caps, and closures and tubes).

SYNTHORA WetDisperse Wetting and dispersing agents

SYNTHORA FoamStop; Anti-foaming agents for aqua and solventbased formulations

SYNTHORA WetCore; Substrate wetting agents

SYNTHORA FlowAdd; Acrylic flow and leveling agents

SYNTHORA BondPro; Adhesion promoter



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