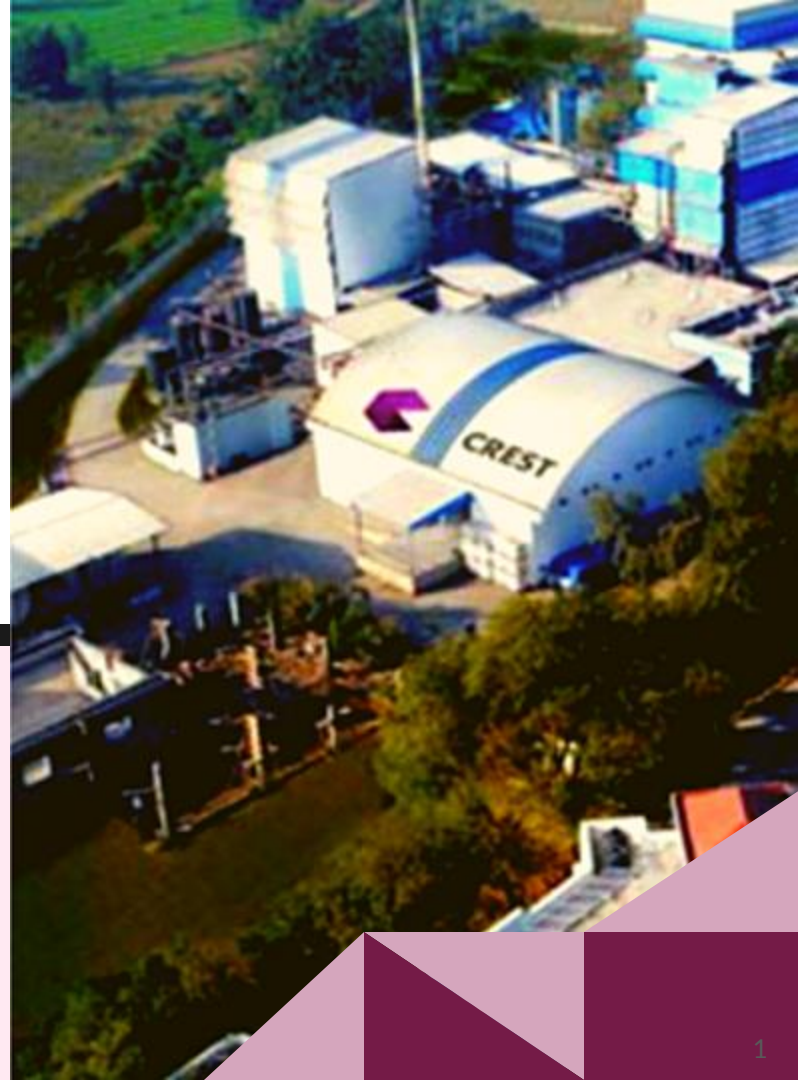


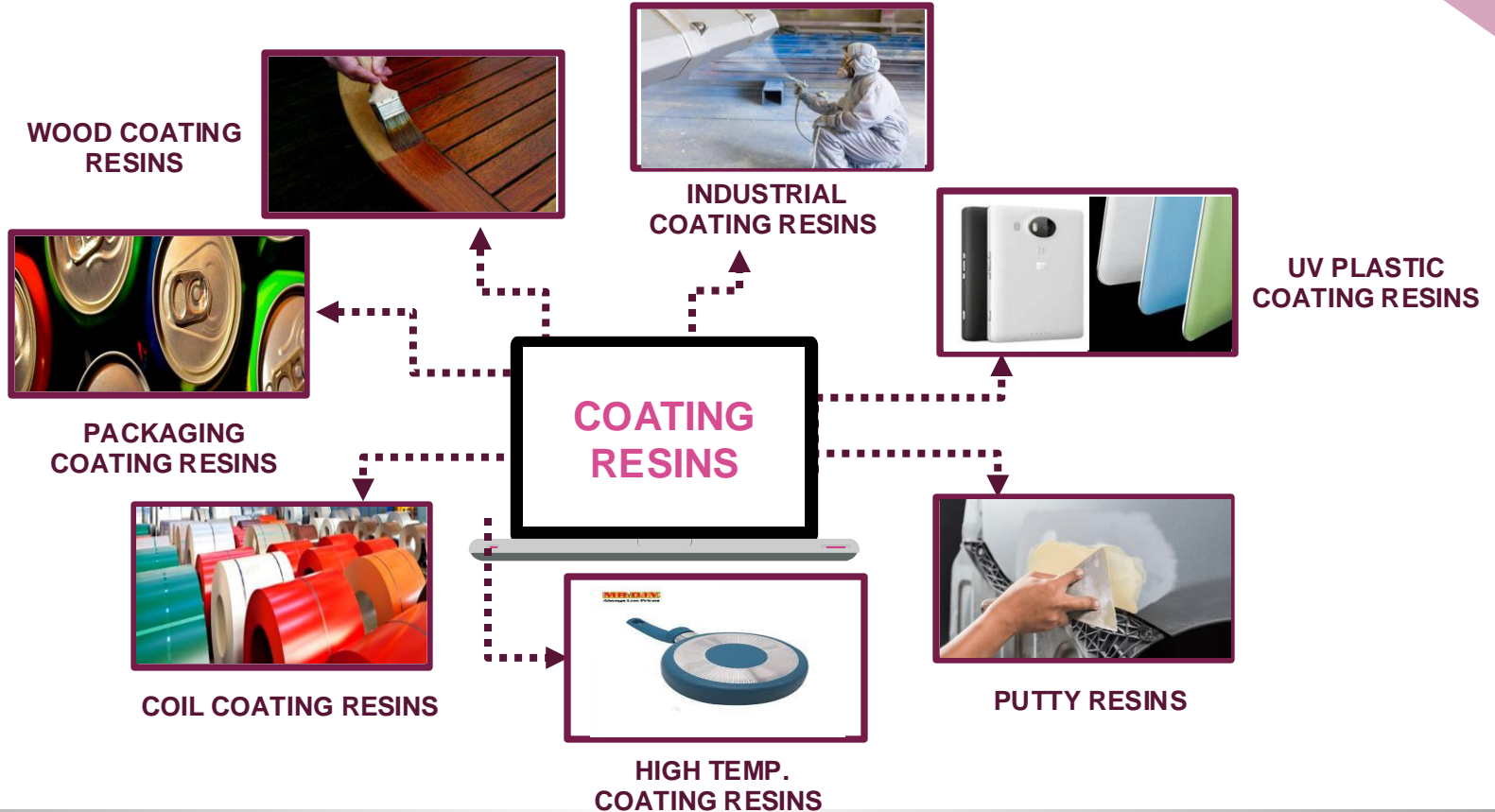


Crest Speciality Resins

Coatings



Crest Coating Resins Solutions



CREST PRODUCT OFFERINGS

Crest offers a diverse range of saturated polyester resins specifically designed for Topcoat, Back coat, & Primer along with specialty grades

TOPCOAT

- Excellent Weathering
- Great flexibility
- High solid
- Low VOC
- Excellent adhesion
- High gloss

BACK COAT

- Adhesion
- Compatible with PUR System

Foamable as well as Non-Foamable back coats

PRIMER

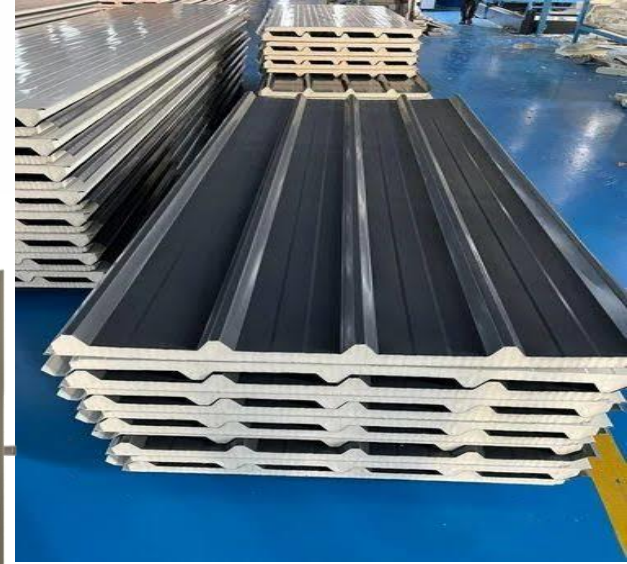
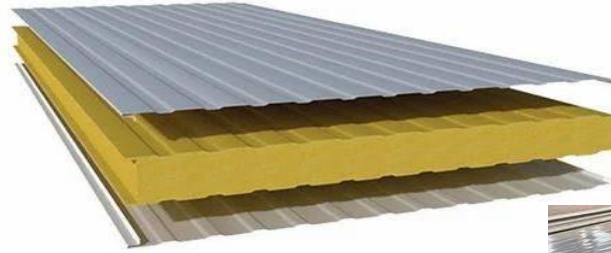
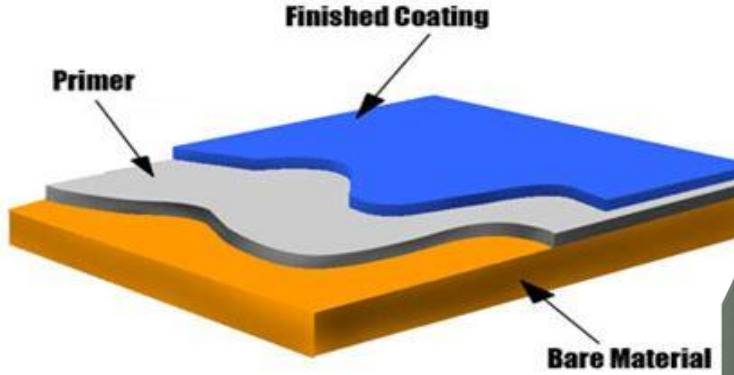
- Excellent adhesion
- Good flexibility
- Low VOC

SPECIALTY

- Universal Primer
- Acrylic Polyol
- Flexibiliser

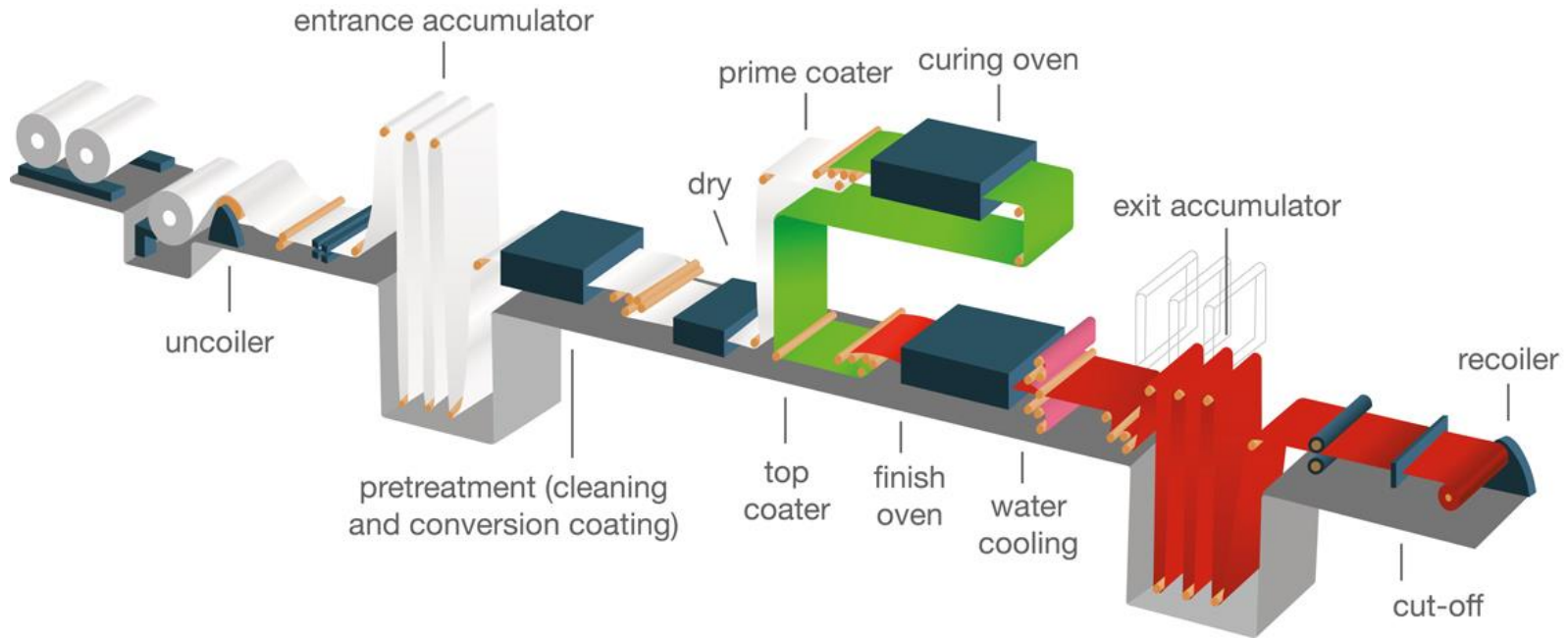


COIL COATING



CURING SCHEDULE OF COIL COATING

COIL COATING FINISHES BASED ON THE RESIN CAN BE CURED AT PEAK METAL TEMPERATURE OF 235°C - 240°C. FOR ONE MINUTE BUT DEPENDING ON REQUIREMENTS IS RECOMANDED.



COIL COATING



PRODUCT PORTFOLIO: TOP COAT

	General Purpose	Good	Better	Best	Specialty Low VOC	Specialty Hi-Flex	Specialty Thermal Resistance
PRODUCT GRADE	CT 7021	CT 7022*	CT 6224	CT 7028	CT 7025	CT 6229	SL 5101

Flexibility	2T	2T	1T	1T	1T	ZERO T	2T
-------------	----	----	----	----	----	--------	----

Durability QUV (A) at 50% GR (hrs)	500	1000	2000	4000	1500	2000	2000
------------------------------------	-----	------	------	------	------	------	------

Solid %	65	65	65	65	75	65	65
---------	----	----	----	----	----	----	----

Hydro-carbon Solvent Intake	**	***	****	*****	****	****	***
-----------------------------	----	-----	------	-------	------	------	-----

* CT 7022 and 6027 grades also offer top-quality wrinkle effect



PRODUCT PORTFOLIO: PRIMER

	General Purpose	Good	Better	Best	Specialty Low VOC	Specialty Low VOC	Specialty Chrome Free
PRODUCT GRADE	CP 7037	CP 7034	CP 7036	CP 7031	CP 7039	CP 7032	COMING SOON
Flexibility	2T	1T	1T	1T	1T	1T	
Metal Adhesion	**	***	****	*****	***	****	
Salt Spray	500	1000	1000	1200	1000	1000	
Solid %	65	65	65	65	70	75	



PRODUCT PORTFOLIO: BACK COAT

	General Purpose	Good	Better	Best	Specialty Low VOC
PRODUCT GRADE	CB 7045	CB 7042	-	-	CB 7046

Foam Adhesion	Good	Excellent	-	-	Excellent
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Solid %	65	65	-	-	75
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PRODUCT PORTFOLIO: SPECIALTY RESINS

PRODUCT GRADE	PRODUCT DETAILS	SUGGESTED APPLICATIONS
CP 8002	Universal Primer Resin	Universal Primer
CP 8001	Flexibiliser	Flexibiliser, very good adhesion, suitable also for deep drawable coatings
CYCRIL 1003	Acrylic resin for PVDF 50% Solid	Alkyd Modifier, Dispersing pigments, Gloss potential, Hardness development



**TENTATIVE
PAINT
FORMULATION OF
COIL COATING**

IN BALL MILL

GRINDING PART

RESIN(30 - 40%)
NON-POLAR SOLVENT(4-6)
POLAR SOLVENT(4-6%)
CAB-O-SIL(0.1-0.2%)
GRINDING AGENT(0.8-1.2%)
TiO2 (55-65%)

FLUSHING PART

RESIN(2-4%)
NON-POLAR SOVENT(1%)
POLAR SOLVENT(1%)

**IN A STIRRER
MIXTURE**

THINNING

RESIN(40-60%)
WAX SOLUTION(0.6-0.7)
LEVELING AGENT(0.4-0.6)
MF(6-10%)
CURING AGENT(0.4-0.5%)
**REACTIVE POLAR
SOLVENT(5%)**
NON POLAR SOLVENT(5%)
WHITE PASTE(25%-35%)
PIGMENT



REQUIRED TESTING FOR COIL COATING

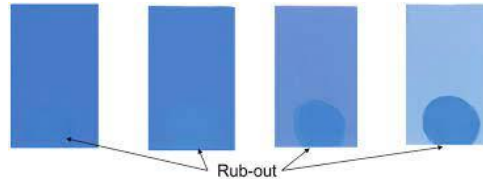
COATING THICKNESS



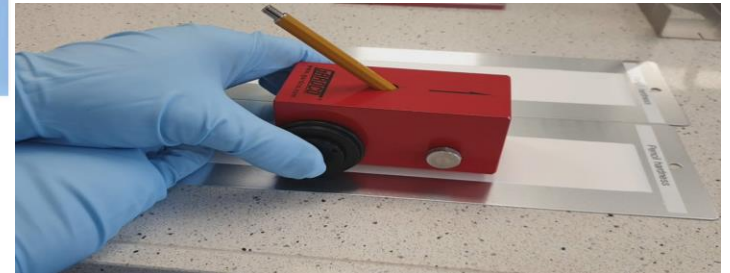
SPECULAR GLOSS



FINGER RUB TEST



PENCIL HARDNESS

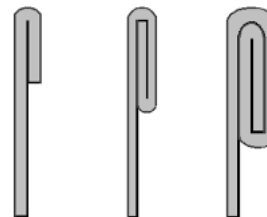


RESISTANCE TO RAPID DEFORMATION (IMPACT TEST)

SOLVENT TOLERANCE

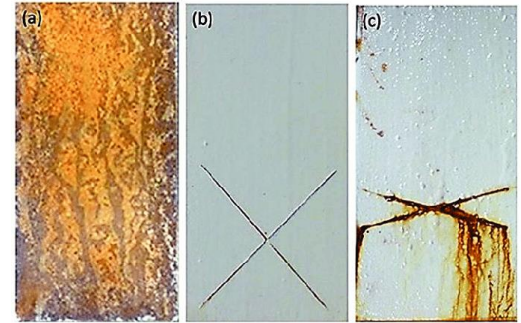
ADHESION AFTER INDENTATION (CUPPING TEST)

RESISTANCE TO CRACKING ON BEND (T-BEND)



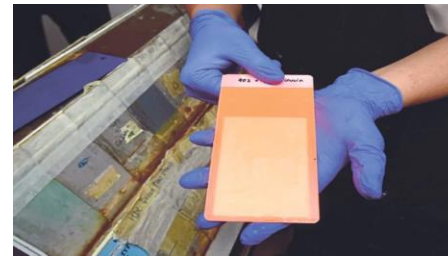
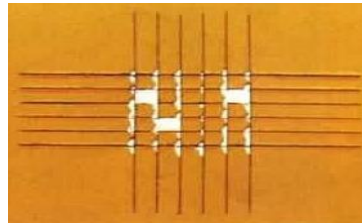
RESISTANCE TO SALT SPRAY

M.E.K. / SOLVENT RUBBING TEST



RESISTANCE TO FLUORESCENT UV LIGHT (QUV)

SCRATCH RESISTANCE



FOAM ADHESION TEST (FOR BACK COAT)

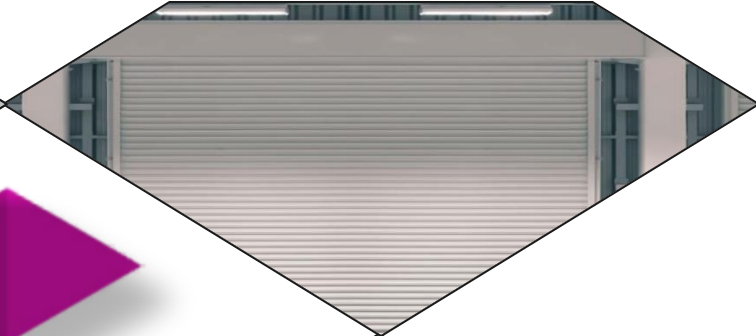


CREST COIL COATING RESINS APPLICATIONS

Home Appliances



Shutters



Coils



Roofing



PACKAGEING COATING RESINS



ROPP



CAPS & CLOSURES

BOTTLE CROWNS

CLOSURE

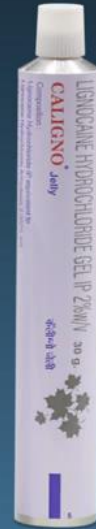
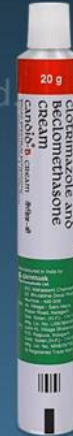


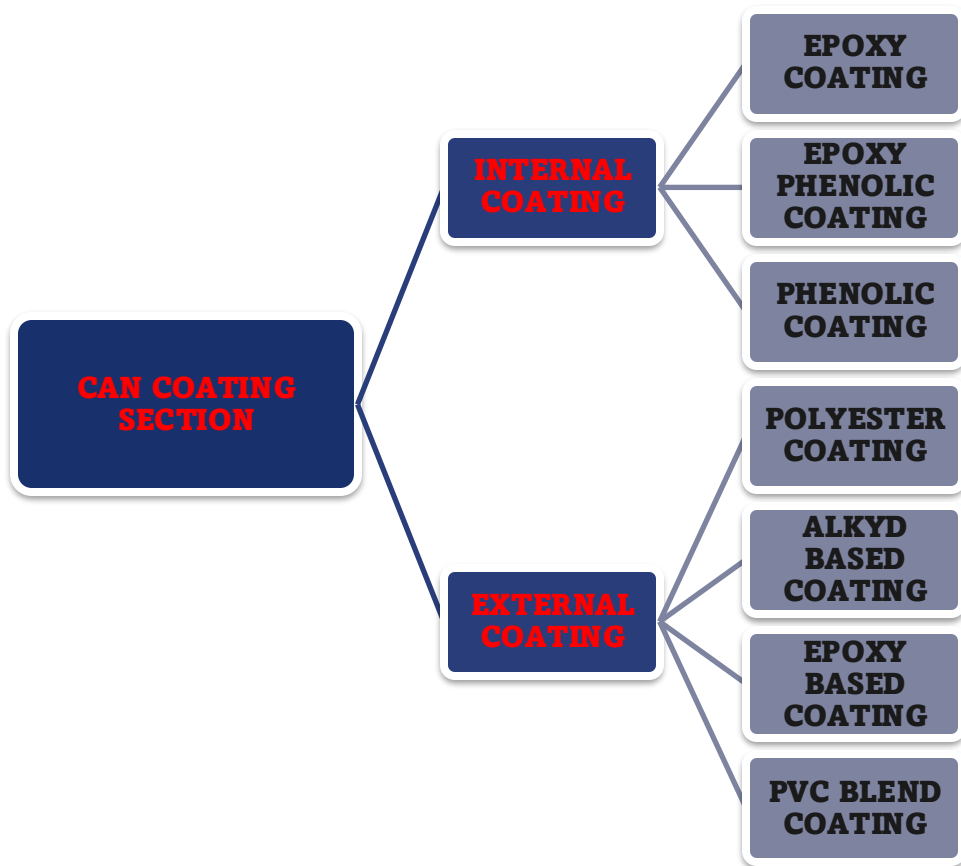




SONA Extrusion Pvt. Ltd.

HOW ALUMINIUM COLLAPSIBLE TUBES ARE MADE?





Monoblock Aerosol Can Production Line Aluminum



CREST PACKAGING COATING RESINS

Saturated Polyester resin

01

Excellent Scratch hardness

Abrasion performance



Versatic acid-based polyester resin

02

Good Adhesion

Good flow & leveling on can surfaces



CAN COATINGS

Segment	Product Grade	Hydroxyl Value	APPLICATION AREA
Saturated Polyester	ESTROPOL 1301	15-30	BASE COAT FOR 3PICE CAN
	ESTROPOL 1305	10-20	FLEXIBLE BASE COAT FOR 3PICE CAN
	ESTROPOL 1302	15-30	BASE COAT FOR TUBE AND MONOBLOCK
	ESTROPOL 1303	20-30	OPV CLEAR COAT FOR TUBE & MONOBLOCK
Versatic acid-based polyester resin	ESTROPOL 1307	NA	OPV CLEAR COAT FOR 3PICE CAN



CURING SCHEDULE OF PACKAGEING COATING

BASE COAT

- CAN COATING FINISHES BASED ON THE RESIN CAN BE CURED AT PEAK METAL TEMPERATURE OF 150°C - 160°C. FOR FIVE MINUTE WHICH IS CALLED 1ST BAKE AND THE ACETONE TEST MUST BE 4-6 DR.
- 2ND BAKE AT 150°C - 160°C. FOR FIVE MINUTE . THE ACETONE TEST MUST BE 20 - 25 DR.

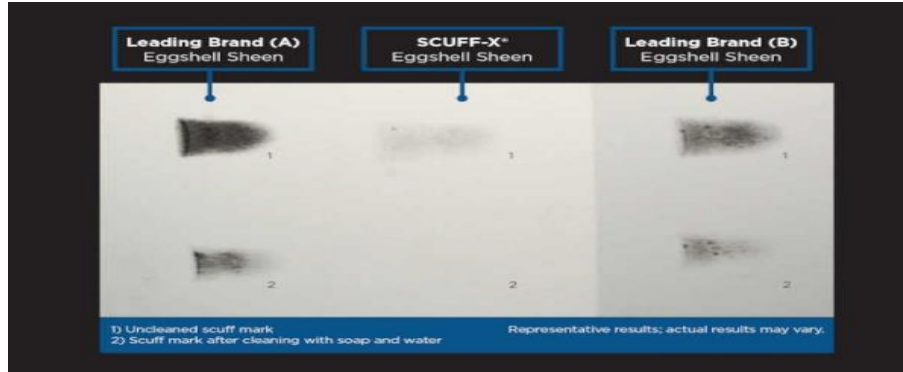
OPV

OPV RESIN CAN BE CURED AT THE PEAK METAL TEMPERATURE OF 150°C - 160°C. FOR 4-6 MINUTE. WHERE THE ACETONE TEST MUST BE 70 – 80 DR.



REQUIRED TESTING FOR CAN COATING

- COATING THICKNESS
- ACETONE / M.E.K. RUBBING TEST
- SCUFF TEST



- IMPACT TEST
- T-BEND TEST
- RESISTANCE TO SALT SPRAY
- PENCIL HARDNESS
- STERILIZATION TEST / BOILING WATER TEST
- FOOD GRADE TESTING



INDUSTRIAL COATINGS

Polyester polyol
with/ without
solvent

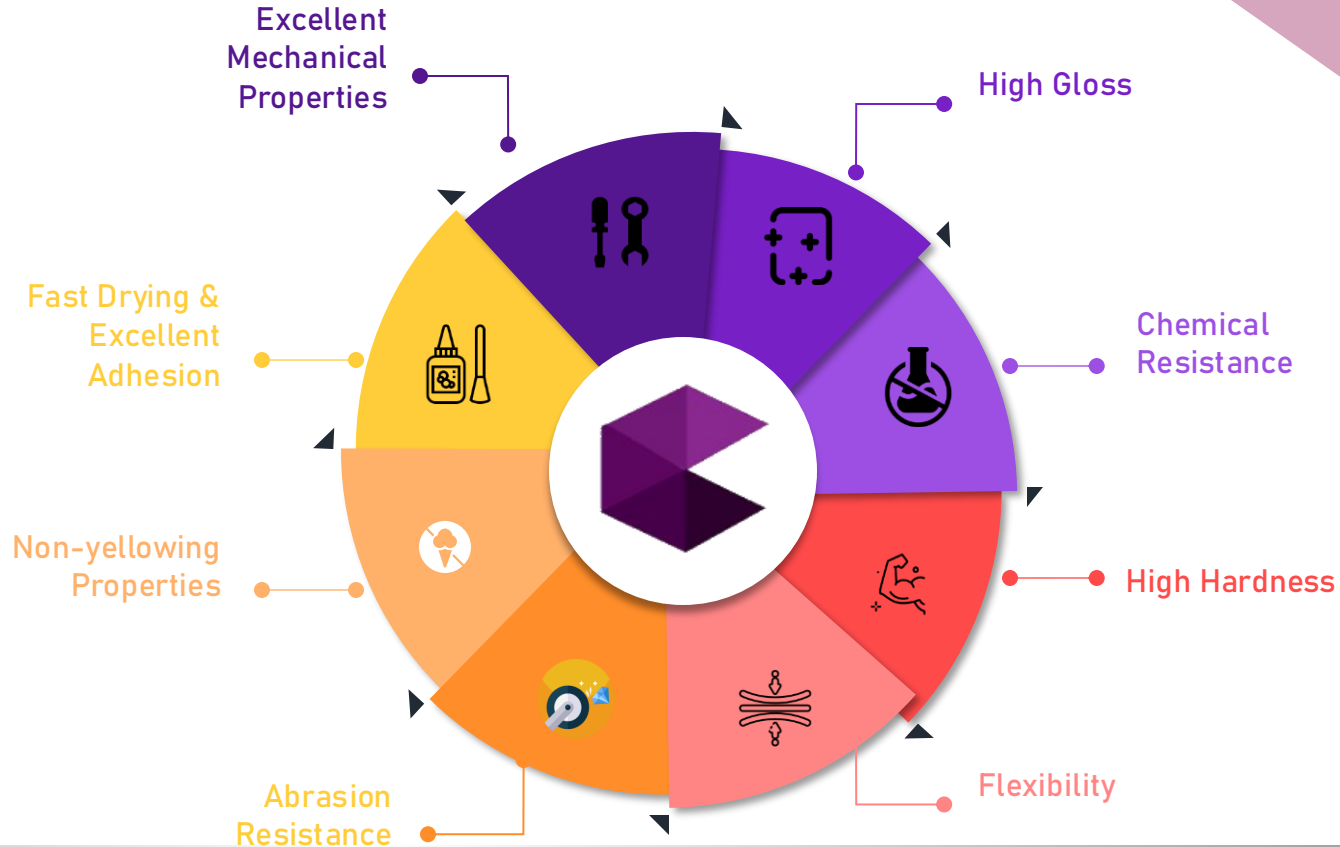
01

Thermoplastic/
thermosetting
Acrylic Polyols

02

High Solid and
High Hydroxyl
Value Polyester
Polyol / Acrylic
Polyol

03





INDUSTRIAL COATINGS

Product	Product details	Suggested applications
Cycril 1402	Similar to Macrynal SM 515 -Acrylic Polyol 70% Solids, Hydroxyl Value: 140-160	Automotive refinishes - topcoats
Cycril 1301	Similar to Setalux 1906- Acrylic Polyol 71-75% Solids, Hydroxyl value: 125-135	<ul style="list-style-type: none">• Two component industrial high solid stoving topcoat and clearcoat.• Two component forced drying coatings for ACE, commercial transport, vehicle refinish
Cycril 1403	Acrylic Polyol 70% Solids, Hydroxyl value: ~140	2K Automotive Refinish and Coating
Cycril 1052	Similar to Synocure 9279 S 70 Acrylic Polyol 70% Solids, Hydroxyl content: 4.2%	It is recommended to use in vehicle refinish, transport coatings, A.C.E., heavy duty coatings, industrial coatings, and wood coatings
Cycril 1015	Acrylic Polyol 60% Solids, Hydroxyl content: 2%	2k PU coating for wood Plastic & out door application



INDUSTRIAL COATINGS

Product	Product details	Description	Suggested applications
Cycril 1005	Acrylic Polyol 60% Solids, Hydroxyl Value: 60	Styrene modified acrylic copolymer with hydroxy functionality, used as: <ul style="list-style-type: none"> • Primer Surfaces, • Topcoats, & • Clears of 2K PU Systems 	<ul style="list-style-type: none"> • Automotive Refinish • Wood Coating • Plastic Coating
Cycril 1006	Similar to Eternal Eterac 73060 X 60/ Setalux D A 163 X Allnex 60% Solids, Hydroxyl value: 90		<ul style="list-style-type: none"> • Automotive Refinish • Wood Coating • Plastic Coating
Cycril 1007	Air drying Acrylic		<ul style="list-style-type: none"> • Plastic Coating • Fast Cure • 1K or 2K
Cycril 1008	Hydroxyl Content: 1% , 60% Solids Acrylic Polyol		<ul style="list-style-type: none"> • High Gloss • Good UV resistance
Cycril 1009	Hydroxyl Content: 2% , 70% Solids Acrylic Polyol		<ul style="list-style-type: none"> • High Solids • Good Adhesion • Auto refinish
Cycril 1404	Acrylic Polyol 60% Solids, Hydroxyl value: ~120		<ul style="list-style-type: none"> • Automotive Refinish • Wood Coating • Plastic Coating
Cycril 1405	Similar to Setalux 1151 XX 51 50% Solids, Hydroxy content: 4.4%		<ul style="list-style-type: none"> • Road and rail transport, • Marine paints, • Industrial repair systems



INDUSTRIAL COATINGS

Product	Product details	Key Features	Suggested applications
Estropol 1201	Equivalent to Setal 181- Polyester Polyol 75% Solids, Hydroxyl content: 3.3 to 4.1%	<ul style="list-style-type: none"> Co-reactant with aliphatic/aromatic polyisocyanate in the formulation 2K PU coatings Good weather stability and excellent flexibility 	Coating for Wood such as boats and flooring
Estropol 1204	Polyester polyol 80% Solids, Hydroxyl value :80-120	Oil free polyester resin for two pack polyurethane coatings	Used in non-yellowing white baking enamels for refrigerators, washing machines, etc.
Estropol 1101	Equivalent to Idester 4369-polyester polyol 100% Solids, Hydroxyl value: 50	Adipic acid based saturated polyester diol.	<ul style="list-style-type: none"> Polymeric plasticizer for polyvinyl chloride and acrylic resins
Estropol 1206	Similar to setathane D 1145 100% solids, Hydroxyl content: 7.1%	Branched Castor oil based polyol	<ul style="list-style-type: none"> Two component coating For hard and tough coatings
Estropol 1205	100% solids, Hydroxyl content 4.7%	Branched Castor oil based polyol	<ul style="list-style-type: none"> Two component coating For hard, tough & flexible coatings



REQUIRED TESTING FOR INDUSTRIAL COATING

- COATING THICKNESS
- ACETONE / M.E.K. RUBBING TEST

- IMPACT TEST
- T-BEND TEST
- RESISTANCE TO SALT SPRAY
- PENCIL HARDNESS
- STERILIZATION TEST / BOILING WATER TEST
- SCRATCH RESISTANCE
- CHEMICAL RESISTANCE



HIGH TEMPRATURE COATING RESIN (SILICON)

POLYESTER SILICONE

01

It offers

- Heat Resistance
- Hardness
- Gloss

EPOXY SILICONE

02

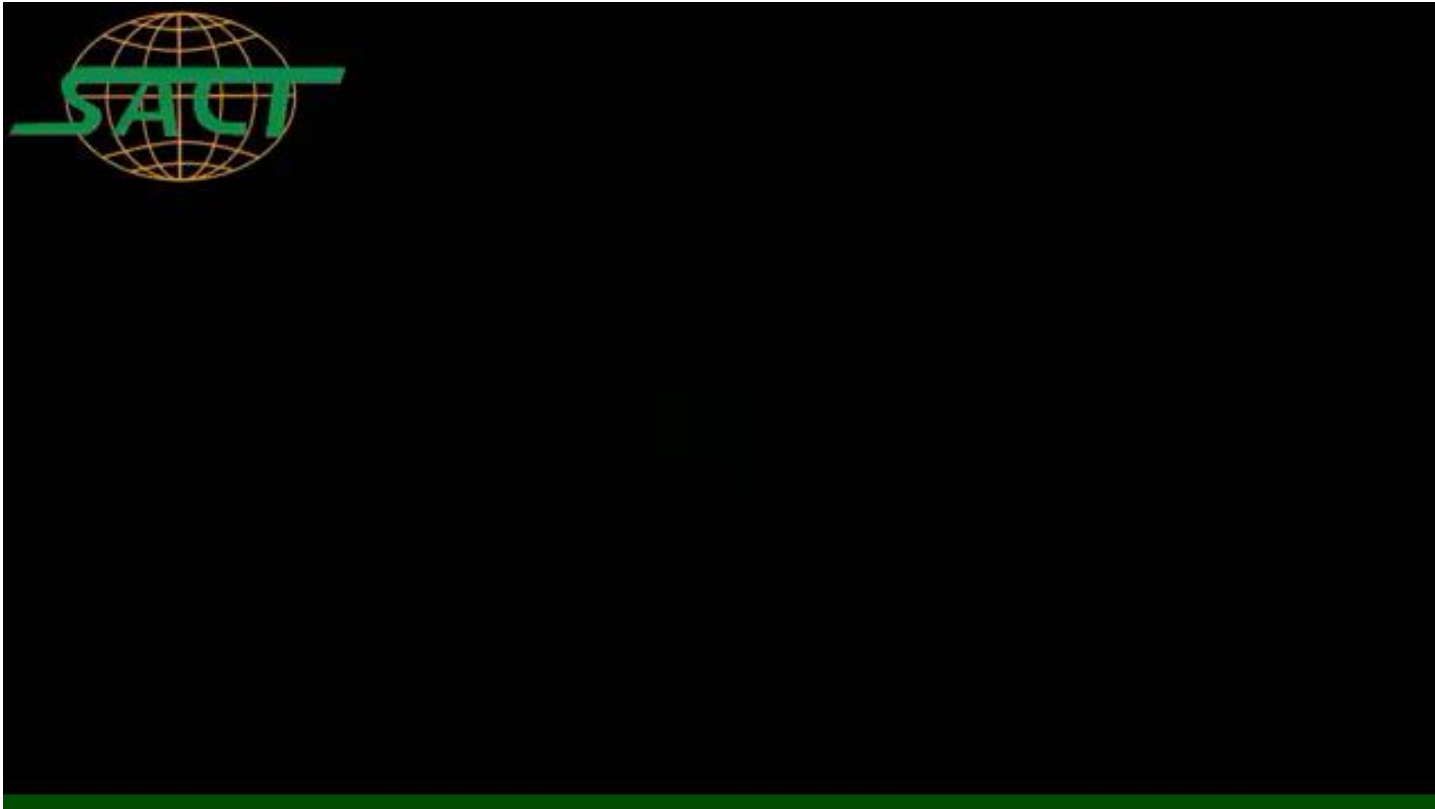
It offers

- Heat Resistance
- Weatherability
- Hardness
- Gloss



- MUFFLER & CHIMNEY APPLICATION
- PAN & POT APPLICATION





HIGH TEMPRATURE COATING RESIN (SILICON)

Product	Product details	Suggested applications
C'POL- SL - 5211	Silicon Polyester Resin	Pot & Pan Application
C'POL- SL- 5212	Silicon Polyester Resin	Pot & Pan Application
C'POL- SL - 5303	Silicon Epoxy Resin	Internal combustion exhaust pipe of 2 wheelers, 4 wheelers & Industrial Fasteners
C'POL -SL - 5304	Silicon Epoxy Resin	High heat resistance single coat on metal/sophisticated appliances
C'POL- SL - 5101	Silicon Polyester Resin	Coil Coatings



REQUIRED TESTING FOR HIGH TEMPERATURE COATING

- M.E.K. RUBBING TEST
- NON-YELLOWING PROPERTY or TEMPERATURE RESISTANCE TEST
- HOT WATER BOILING TEST
- PENCIL HARDNESS
- DETERGENT TEST
- GLOSS



UV RESINS FOR PLASTIC & MOBILE COATINGS

EPOXY ACRYLATE

01

It gives high reactivity, chemical resistance, and high gloss to formulations for plastic coating.

ACRYLIC ACRYLATE

02

It gives transparency, resistance to breakage, and elasticity

URETHANE ACRYLATE

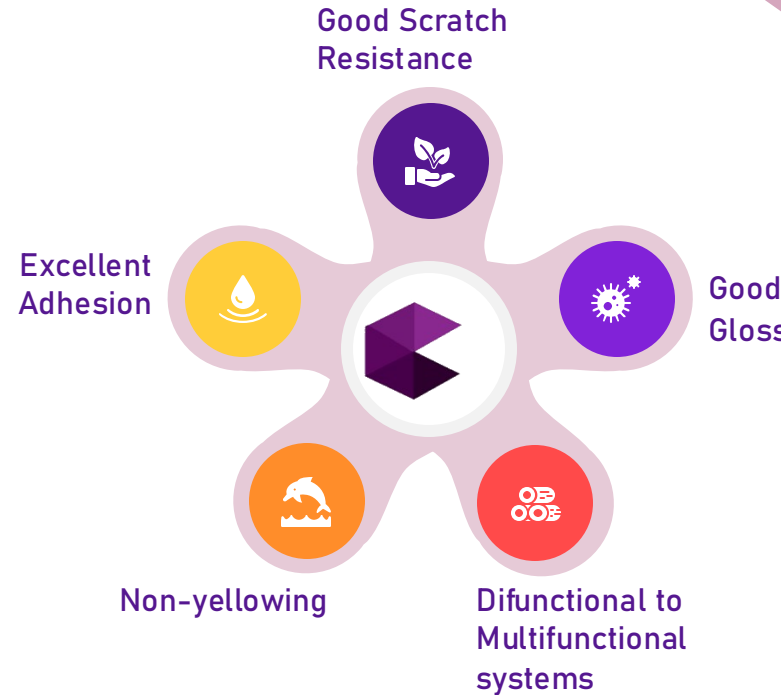
03

It improves the hardness and scratch-resistance of a coating

POLYESTER ACRYLATE

04

It gives good flexibility, toughness, yellowing resistance, and surface hardness







UV RESINS FOR PLASTIC & MOBILE COATINGS

Product	Product details	Key Features	Suggested Applications
Ultra 4006	Epoxy acrylate in 40%DPGDA	Crest Resin Offers: <ul style="list-style-type: none">• High Surface Hardness• High Gloss• Solvent and Water Resistance	UV applications such as <ul style="list-style-type: none">• Optical Fibres• Printing Inks• Coatings• Varnishes
Ultra 4007	Epoxy acrylate in 40%HDDA		
Ultra 4008	Epoxy Acrylate resin in TMPTA	Crest Resin Offers: <ul style="list-style-type: none">• Good Toughness• High Gloss• Solvent and Weather Resistance	<ul style="list-style-type: none">• Plastic Paints• Printing Inks• Coatings• Varnishes
Ultra 4009	Modified Epoxy Acrylate resin		



UV RESINS FOR PLASTIC & MOBILE COATINGS

Product	Product details	Key Features	Suggested Applications
Ultra 4011	Di-functional aliphatic urethane acrylate	Crest Resin Offers: <ul style="list-style-type: none"> • Good Flexibility • Adhesion(abs, PC/ABS And PVD Layer) • Toughness • Durability • Light in Color • Easy to Handle 	UV applications such as: <ul style="list-style-type: none"> • Plastics Coating • Wood Coating • Flexographic Inks • Screen Inks • Durable Coatings • UV PVD Basecoat
Ultra 4012	Medium functional aliphatic urethane acrylate.	<ul style="list-style-type: none"> • High Abrasion Resistance • High Hardness • Scratch Resistance And • Weather Resistance 	<ul style="list-style-type: none"> • Plastic Paints • Printing Inks • Coatings • Varnishes
Ultra 4013	Nine functional aliphatic urethane acrylate	Crest Resin Exhibits: <ul style="list-style-type: none"> • High Acrylate Functionality • High Abrasion Resistance • High Hardness • Scratch Resistance • Weather Resistance 	<ul style="list-style-type: none"> • Plastic Paints • Printing Inks • Coatings • Varnishes



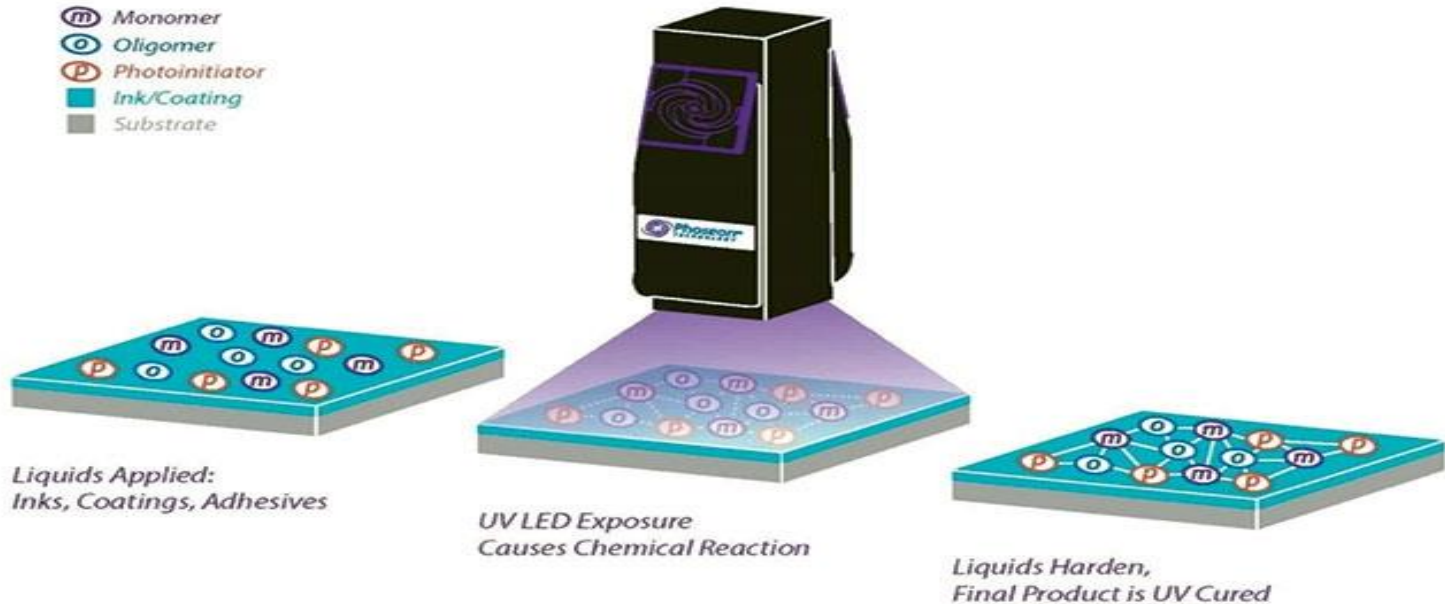
UV RESINS FOR PLASTIC & MOBILE COATINGS

Product	Product details	Key Features	Suggested Applications
Ultra 4014	Ten functional aliphatic urethane acrylate	<p>Crest Offers aliphatic polyurethane acrylate, providing:</p> <ul style="list-style-type: none"> • Tough & high hardness • Good Steel Wool Resistance • High Scratch Resistance • Excellent Hardness • Wear Resistance for the Paint Film 	<ul style="list-style-type: none"> • Plastic Paints, • Vacuum Plating UV Spraying, • PET Hardening Coating, • Printing Inks, • UV Ink • Coatings • Varnishes
Ultra 4016	DIC V-3070 equivalent polymer acrylate	<ul style="list-style-type: none"> • Semi hard 	<p>Automotive</p> <ul style="list-style-type: none"> • Top Coat for headlamp coating • Pigmented/clear topcoat for hard plastic substrate
Ultra 4019	Ten functional aliphatic urethane acrylate oligomer with fast cure, speed, and high hardness	<ul style="list-style-type: none"> • Good Steel Wool Resistance • High Scratch Resistance • Excellent Hardness • Wear Resistance 	<ul style="list-style-type: none"> • UV Hardening Coating • Wood Inlay Floor Paint • Ink • Vacuum metallization coating



CURING SCHEDULE OF PLASTIC COATING

Plastic coating is cured in presence of UV Light in presence of UV catalyst.



WOOD COATINGS

Unsaturated Polyester Polyol

01

Polyester Polyol

02

Alkyd polyol

03

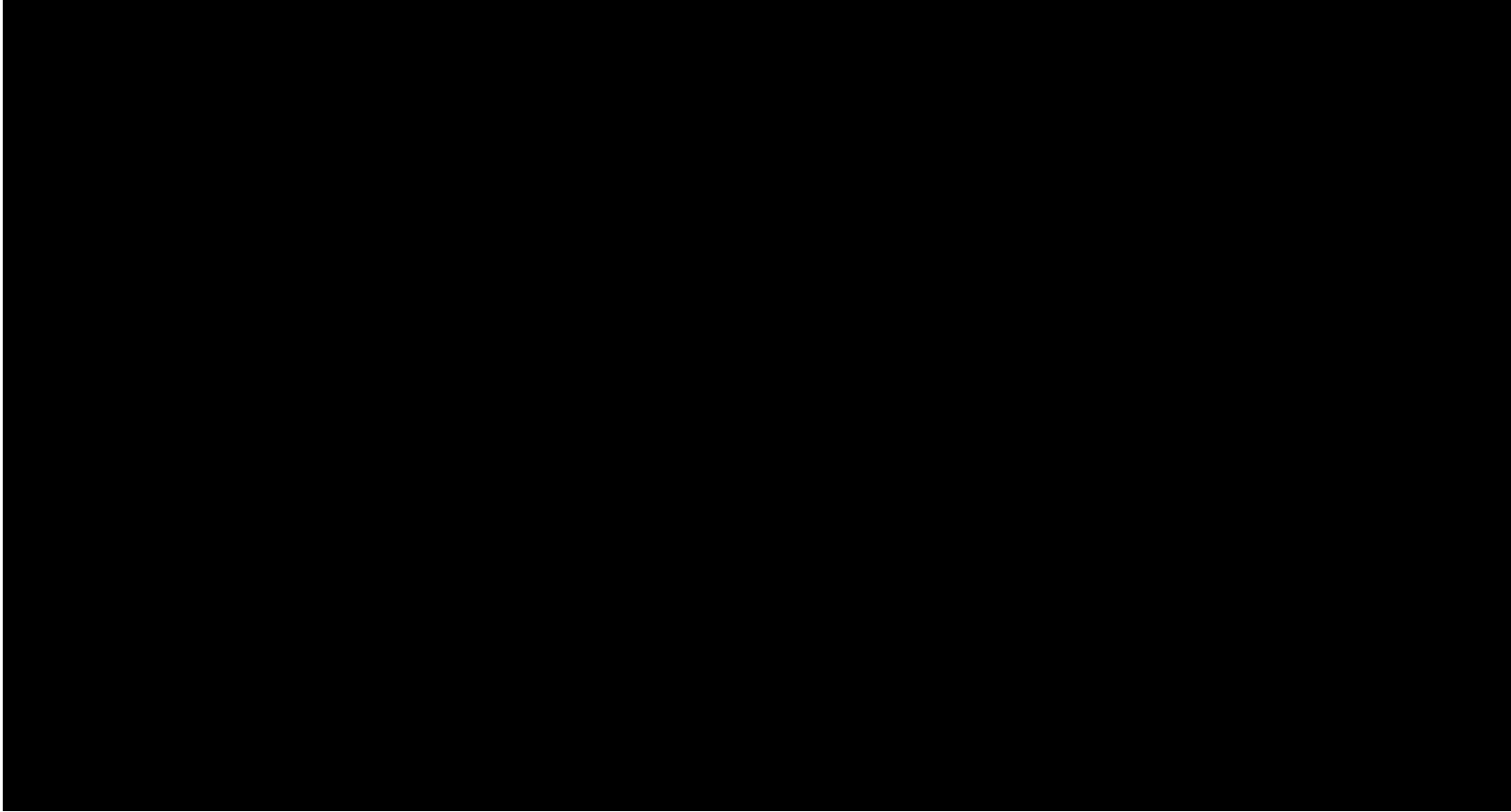
Epoxy Acrylate

04

Polyester Acrylate

05





WOOD COATINGS

Product	Product details	Suggested Applications
CPOL 1407	UPR for wood coating	Base coat for wood
C'POL 1401	UPR for wood coating	Base coat for wood
Estropol 1404	Polyester polyol similar to Benesado IS 87 for wood coating	PU-Clear Coat
Esropol 1410	DCO based resin similar to Benesado F 71 for wood coating	PU-Clear Coat
ULTRA 4006	UV CURED WOOD COATING	WOOD PAINT



TENTATIVE PAINT FORMULATION OF WOOD COATING

UPR CLEAR COAT

Sr. No.	INGREDIENTS	APPROX QUANTITY
1	RESIN	75 - 80%
2	THICKENING AGENT	1-1.5 %
3	FLOW & LEVELING AGENT	0.3 – 0.6%
4	AIR RELEASE	0.2 – 0.5%
5	SANDING AGENT	3-5%
6	STYRENE	6- 12%
7	ETHYLE ACETATE	4-6%
8	BYK 555	0.2- 0.5%

PU COATING

1st PACK

Sr. No.	INGREDIENTS	APPROX QUANTITY
1	Saturated Resin	60 – 65%
2	Xylene	25 – 30%
3	BA	5-10%
4	Leveling Agent	0.2 – 0.5%
5	Surface slip Agent	0.05 – 0.1%

2nd PACK

6	Polyisocyanate	40 – 50%
7	BA	3-5%
8	Xylene	3-5%



REQUIRED TESTING FOR WOOD COATING

- MEK SOLVENT TEST
- STAIN TEST
- CIGARETTE BUT TEST
- CROSS CUT TEST
- GLOSS



CHALLENGES FACING IN THE CUSTOMER END

- DRYING TIME ISSUE
- COLOURE CONSISTENCY ISSUE
- APPLICATION TIME ADJUSTMENT



AUTOMOTIVE PUTTY RESIN





BESA



CREST PRODUCT OFFERINGS

Product	Product details	Suggested Applications	Performance
CPOL 3791	DCPD BASED UNSATURATED POLYESTER (PRE-PROMOTED)	Automotive Refinish Putty	GOOD Adhesion, filling property & Very Good sand ability , Crack Resistance
CPOL 3796	DCPD BASED UNSATURATED POLYESTER (PRE-PROMOTED)	Automotive Refinish Putty	Excellent Flexibility, Adhesion, Filling property & also Excellent Sand ability , Crack Resistance
C'POL 271P	NON DCPD BASED UNSATURATED POLYESTER	Knife putty for faster turnover body shop	Versatile & economical grade, Very good filling property
C'POL 1701	ORTHO BASED UNSATURATED POLYESTER	Automotive Refinish	Ortho based economic grade, good metal adhesion, good Sanding property.
C'POL 786	FLEXIBILIZER	MIXING WITH RESIN	Car Body



TENTATIVE FORMULATION OF PUTTY

PUTTY FORMULATION		
Sr. No.	INGREDIENTS	APPROX QUANTITY
1	RESIN	30 - 35%
2	WETTING AGENT	0.2- 0.5 %
3	TiO ₂	2- 3%
4	Talc	40 - 45%
5	CaCO ₃	10 - 13%
6	STYRENE	2 - 5%
7	BaSO ₄	8 - 10%



REQUIRED TESTING FOR AUTOMOTIVE PUTTY

- APPLICATION TIME
- SANDING & CLOGGING TEST
- HARDNESS TEST
- PEAK TEMPERATURE
- STABILITY OF RESIN



CHALLENGES FACING IN THE CUSTOMER END

- APPLICATION TIME ISSUE
- CLOGGING ISSUE ON SANDING
- STABILITY OF THE RESIN
- HARD SANDING





THANK

39

Y

YTTRIUM

88.91

8

O

OXYGEN

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92

U

URENIUM

238.03

