



32+ YEARS OF EXPERIENCE

1.200m² LABORATORIES

20 INDUSTRIES

4.000m² WAREHOUSE

2.500m² PRODUCTION AREA

2.500+ PRODUCTS

15.000mt PRODUCTION CAPACITY

1.500+ CUSTOMERS





Kempro Kimyasal Maddeler ve Dış Tic. A.Ş., established in 1991, located in Istanbul, Turkiye, is a chemical and tailor-made polymers producer and also the exclusive agent and distributor of well-known companies all over the world.

Having his own warehouse in its own facilities, Kempro can flexibly provide logistics services on just-in-time delivery basis, to his customers either domestic or global wise.

Experienced and skilled sales force supported by competent technical service, Kempro also provides accurate information about new emerging technologies and products to his customers.

Kempro supplies raw materials for 20 industries such as; paint and coatings, inks, plastics, packaging, elastomers, rubber, adhesives, textile, cable, construction chemicals, automotive, brake linings, medical, cosmetics, white domestic goods, lubricants, food, mining chemicals and machinery.

Kempropol Kimyasal ve Polimer Maddeler Sanayi ve Ticaret A.Ş., established in 2012, produces thermoplastic (1K) and thermoset (2K) acrylic resins, saturated polyesters, polyurethane resins for various industries such as car refinishes, wood, plastic and industrial coatings. With long years of experience, Kempropol can easily modify and adjust the requested features such as OH value, solid content, solvent system, Tg value, etc. of our resins according to the request of his customers on a tailor-made business approach.

Having well-equipped R&D and application laboratories in its own facilities, Kempropol continuously develops tailor-made acrylic polymer & copolymer solutions, polyurethanes, prepolymers, acrylic polyols, polyurethane dispersions, acrylic and acrylic-polyurethane hybrid dispersions, polyaspartic resins, UV curable and 3D printing resins for the specific needs of his customers.

Kempropol produces and develops polymers for car refinishes, industrial coatings, wood coatings, adhesives, textile, leather, construction chemicals and insulation industries.

Kempropol supplies his product range under the brand name KROL®, on just in time delivery basis out of his local premises in Birlik Industrial Zone, located in Tuzla, Istanbul, Turkiye. With experienced and skilled sales force supported by competent technical service, Kempropol provides accurate information and produces polymers by following up the new emerging technologies.



OUR PRODUCTS - KROL ® SERIES

KROL ACS : Thermoplastic Acrylic Resins (Solventbased)

KROLAC : Thermosetting Acrylic Resins
KROLAT : Saturated Polyester Resins

KROL ACS SPY
 Sprayable Thermoplastic Acrylic Resins
 KROL PUP
 Elastomeric Polyurethane Resins for Inks
 KROL PPF
 Conventional Polyurethane Resins for Inks

KROL LAC : Primary Lac for Metallized OPP, Metallized PET and Aluminium Paper Foils

KROL ACD : Thermoplastic Acrylic Dispersions (Waterbased)

KROL PUHD : The state of the st

KROL WPUD : Polyurethane DispersionsKROL PS TD : Diol Triol Polyester PolyolKROL AVS : Thermoplastic PSA Solutions

KEMFLEX : C4 Monomer Based Polymer Solutions
KEMPRINT : Elastic Waterbased Printing Pastes

KROL DISCHARGE: Waterbased Discharge PastesKROL PUR 2K: Rigid Polyurethane Systems

KROL SPY ADH : Solventbased Single Component AdhesiveKROL PVAc : 1K Polyvinyl Acetate Multipurpose Adhesives

KROL PUO : 1K Marine Adhesives

KROL SOLVIOL : Water Soluble PVAL/PVAc Copolymer Adhesives

KROLTT : Polyvinyl Acetate - Polyvinyl Alcohol Copolymer Dispersions

KROL PUS : Polyurethane Floor Coating Resins

KROL SYRUP : Acrylic Copolymer for 2K Road Marking Paints

KROLASTAR :

KROL BAS : Styrene Acrylic Copolymer Resin

KROL PRP :

KROL PAE :

KROL PPD : Pour Point Depressant
KROL VII : Viscosity Index Improver

KROL 3D : Resins for DLP, LCD, SLA 3D Printers

KROL UV : S
KROL IMM : Impact Modifier for PP

KROL WPOA : Waterborne Hydroxyl-Functional Acrylic Dispersions

KROL WPUVC : " The state of the

| PRODUCT | OUR ACRYLIC RESINS PRODUCT RANGE |
|-------------------|--|
| KROL ACS 1108 | 1K Clearcoats and Solid / Metallic Colours |
| KROL ACS 725 EA | 1K Clearcoats and Solid / Metallic Colours, Inks |
| KROL ACS 731 | Plasticization, Additive Resin with High Compatibility |
| KROL NA 7332 | 1K Clearcoats and Solid / Metallic Colours |
| KROLAC 1022 SS 60 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 203 SS 60 | 2K Clearcoats and Solid Colours, Fast Drying, High Gloss |
| KROLAC 209 SS 70 | HS 2K Clearcoats and Solid Colours |
| KROLAC 254 SS 60 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 254 XX 52 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 263 SS 60 | 2K Primers, Clearcoats Solid / Metallic Colours, High Gloss |
| KROLAC 263 SS 70 | 2K Primers, Clearcoats Solid / Metallic Colours, High Gloss |
| KROLAC 263 XS 60 | 2K Primers, Clearcoats Solid / Metallic Colours, High Gloss |
| KROLAC 263 XS 70 | 2K Primers, Clearcoats Solid / Metallic Colours, High Gloss |
| KROLAC 263 XX 60 | 2K Primers, Clearcoats Solid / Metallic Colours, High Gloss |
| KROLAC 271 XS 60 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 272 SS 60 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 273 SS 60 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 273 XX 60 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 295 SS 51 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 295 XS 51 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 296 XS 51 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 297 XS 51 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 298 XS 60 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 311 SS 55 | 2K Primers and Top Coats, Excellent Adhesion on Difficult Metals and Substrates, Fast Drying, High Gloss |
| KROLAC 311 XX 55 | 2K Primers and Top Coats, Excellent Adhesion on Difficult Metals and Substrates, Fast Drying, High Gloss |
| KROLAC 314 SS 55 | 2K Primers and Top Coats, Excellent Adhesion on Difficult Metals and Substrates, High Gloss |
| KROLAC 314 XX 55 | 2K Primers and Top Coats, Excellent Adhesion on Difficult Metals and Substrates, High Gloss |
| KROLAC 322 SS 65 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 496 BX 51 | Metallic, Pearl and Solid Colour Acrylic Basecoats for Car Refinishes and OEM |
| KROLAC 498 SS 50 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 498 XS 50 | 2K Clearcoats and Solid / Metallic Colours |
| KROLAC 627 SS 70 | HS 2K Clearcoats and Solid Colours |
| KROLAC 864 SS 70 | HS 2K Clearcoats and Solid Colours |
| KROLAT 279 SS 80 | Flexible Saturated Polyester Resin |
| KROLAT 284 MX 60 | Metallic, Pearl and Solid Colour Acrylic Basecoats for Car Refinishes and OEM, Baking Systems when Combined with Melamine Formaldehyde Resins |
| KROLAT 381 XS 70 | 2K Saturated Polyester Systems |
| KROLAT 586 SS 70 | 1K Systems when Combined with Melamine Formaldehyde / 2K Systems |
| KROLAT 586 SS 80 | 1K Systems when Combined with Melamine Formaldehyde / 2K Systems |
| KROLAT 950 XX 70 | 1K / 2K Systems |
| | |



| mpro | RESIN TYPE | SOLID CONTENT (%) | SOLVENT SYSTEM | VISCOSITY (23 ^O C, Pa.s) | ACID VALUE (mg KOH/g] | (%) (апоз по) но | DENSITY (23 ⁰ C, g/cm3) | Tg (°C) | ACETONE | BUTANOL | BUTYLACETATE | ETHER ESTERS | TABILITE ETHYL ACETATE | IPA | MEK | MIBK | SOLVENT NAPHTA | SOLVESSO 100 | TOLUOL | XYLENE | ACE COATINGS | AEROSOL COATINGS | BUS, TRUCK, TRAIN COATINGS | CAR REFINISHES | GENERAL INDUSTRIAL COATINGS | METAL COATINGS | NOITA31IC COATINGS | PRINTIG INKS | PROTECTIVE COATINGS | ROAD MARKING PAINTS | SEALERS | WOOD |
|-------------------|-----------------------------|-------------------|-------------------------------------|-------------------------------------|-----------------------|------------------|------------------------------------|---------|---------|---------|--------------|--------------|------------------------|-----|-----|------|----------------|--------------|--------|--------|-----------------|---------------------|-------------------------------|----------------|--------------------------------|-------------------|-----------------------|--------------|------------------------|------------------------|---------|------|
| KROL ACS 1108 | THERMOPLASTIC ACRYLIC RESIN | 50 | XYLENE, PMAc | 0,6-3,0 | 10-14 | | 0,98 | 46 | • | • | • | • | • | • | • | • | • | • | • | • | | | | | | • | • | | | | | |
| KROL ACS 725 EA | THERMOPLASTIC ACRYLIC RESIN | 50 | ETHYL ACETATE | 3,0-6,0 | 4-9 | | 1,00 | 64 | • | • | • | • | • | • | • | • | • | • | • | • | | | | • | | • | • | • | • | • | • | |
| KROL ACS 731 | THERMOPLASTIC ACRYLIC RESIN | 40 | BUTYL ACETATE/XYLENE | 0,3-1,2 | 1-5 | | 1,03 | 35 | • | • | • | 0 | • | • | • | • | 0 | • | • | • | • | • | • | • | • | • | • | • | • | | • | • |
| KROL NA 7332 | THERMOPLASTIC ACRYLIC RESIN | 50 | MEK/ETHYL ACETATE | 4,0-8,0 | 10-15 | | 1,00 | 70 | • | • | • | 0 | • | • | • | • | 0 | • | • | • | | • | | | • | | • | | • | • | | • |
| KROL NA 5926 | THERMOPLASTIC ACRYLIC RESIN | 50 | MEK/ETHYL ACETATE | 2,0-6,0 | <3 | | 0,98 | 70 | • | • | • | 0 | • | • | • | • | 0 | • | • | • | | • | | | • | | • | | • | • | | • |
| KROL ACS 725 T50 | THERMOPLASTIC ACRYLIC RESIN | 50 | TOLUOL | 3,0-5,0 | 7-11 | | 1,00 | 69 | • | • | • | • | • | • | • | • | • | • | • | • | | • | | • | • | • | • | | • | • | • | • |
| KROLAC 203 SS 60 | FUNCTIONAL ACRYLIC RESIN | 60 | BUTYL ACETATE | 4,0-8,0 | 8-11 | 3,8 | 0,98 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | | | | • | • | • | • | | • | | | • |
| KROLAC 254 SS 60 | FUNCTIONAL ACRYLIC RESIN | 60 | BUTYL ACETATE | 2,0-6,0 | 4,5-6,5 | 2,0-2,2 | 1,00 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | | | | | • | | • | | | | | • |
| KROLAC 254 XX 52 | FUNCTIONAL ACRYLIC RESIN | 52 | XYLENE | 0,5-2,0 | 5-8 | 2,0-2,2 | 1,00 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | | | | | • | | • | | | | | • |
| KROLAC 263 SS 60 | FUNCTIONAL ACRYLIC RESIN | 60 | BUTYL ACETATE | 1,4-3,0 | 6-10 | 4,2 | 0,97 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | • | • | • | | • | | | • |
| KROLAC 263 SS 70 | FUNCTIONAL ACRYLIC RESIN | 70 | BUTYL ACETATE | 9,0-15,0 | 6-10 | 4,2 | 1,03 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | • | • | • | | • | | | • |
| KROLAC 263 XS 60 | FUNCTIONAL ACRYLIC RESIN | 60 | BUTYL ACETATE/XYLENE | 1,4-3,0 | 6-10 | 4,2 | 1,00 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | • | • | • | | • | | | • |
| KROLAC 263 XS 70 | FUNCTIONAL ACRYLIC RESIN | 70 | BUTYL ACETATE/XYLENE | 9,0-14,0 | 5-9 | 4,2 | 1,00 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | • | • | • | | • | | | |
| KROLAC 263 XX 60 | FUNCTIONAL ACRYLIC RESIN | 60 | XYLENE | 1,4-3,0 | 4-8 | 4,2 | 0,98 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | • | • | • | | • | | | • |
| KROLAC 271 XS 60 | FUNCTIONAL ACRYLIC RESIN | 60 | BUTYL ACETATE/XYLENE | 2,5-5,5 | 8-11 | 2,7 | 0,98 | | • | 0 | • | • | • | 0 | • | • | • | 0 | • | • | • | | • | | • | • | • | | | | | |
| KROLAC 272 SS 60 | FUNCTIONAL ACRYLIC RESIN | 60 | BUTYL ACETATE | 5,0-9,0 | 5-10 | 3,0 | 0,98 | | • | 0 | • | • | • | 0 | • | • | • | 0 | • | • | | | • | • | • | • | • | | | | | • |
| KROLAC 273 SS 60 | FUNCTIONAL ACRYLIC RESIN | 60 | BUTYL ACETATE | 4,5-7,5 | <6 | 3,0 | 1,00 | | • | 0 | • | 0 | 0 | 0 | • | • | 0 | • | • | • | | | | • | • | • | • | | | | | • |
| KROLAC 273 XX 60 | FUNCTIONAL ACRYLIC RESIN | 60 | XYLENE | 3,0-6,0 | <6 | 3,0 | 1,00 | | • | 0 | • | 0 | 0 | 0 | • | • | 0 | • | • | • | | | | • | • | | • | | | | | • |
| KROLAC 295 SS 51 | FUNCTIONAL ACRYLIC RESIN | 51 | BUTYL ACETATE | 3,5-8,5 | 5-8 | 1,9-2,0 | 0,98 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | | | • | • | • | | | | | | | • |
| KROLAC 295 XS 51 | FUNCTIONAL ACRYLIC RESIN | 51 | BUTYL ACETATE/XYLENE | 3,5-8,5 | 5-8 | 1,9-2,0 | 0,98 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | | | • | • | • | | | | | | | • |
| KROLAC 160 XX 60 | FUNCTIONAL ACRYLIC RESIN | 60 | XYLENE | 1,0-4,0 | 3-6 | 2,7 | 0,98 | | • | 0 | • | 0 | • | 0 | • | • | • | 0 | • | • | • | | | • | • | • | • | | | | | |
| KROLAC 1022 SS 60 | FUNCTIONAL ACRYLIC RESIN | 60 | BUTYL ACETATE | 0,8-3,5 | 10-17 | 1,2 | 1,00 | | • | 0 | • | • | • | 0 | • | • | • | 0 | • | • | | | | | | • | • | | | | | • |
| KROLAC 209 SS 70 | FUNCTIONAL ACRYLIC RESIN | 70 | BUTYL ACETATE | 10-24 | 4-10 | 4,2 | 1,00 | | • | 0 | • | • | • | 0 | • | • | • | 0 | • | • | • | | • | • | • | • | • | | • | | | |
| KROLAC 311 SS 55 | FUNCTIONAL ACRYLIC RESIN | 55 | BUTYL ACETATE | 0,7-3,0 | 2,5-4 | 1,9 | 0,98 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | | | • | • | • | • | • | | | | | • |
| KROLAC 311 XX 55 | FUNCTIONAL ACRYLIC RESIN | 55 | XYLENE | 0,8-3,5 | 2,5-4 | 1,9 | 1,00 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | | | • | • | • | • | • | | | | | • |
| KROLAC 314 SS 55 | FUNCTIONAL ACRYLIC RESIN | 55 | BUTYL ACETATE | 0,8-2,5 | 2,5-4 | 4,0 | 1,00 | | • | 0 | • | • | • | 0 | • | • | • | 0 | • | • | • | | • | • | • | • | • | | | | | • |
| KROLAC 314 XX 55 | FUNCTIONAL ACRYLIC RESIN | 55 | XYLENE | 0,8-3,5 | 3-6 | 4,0 | 1,00 | | • | 0 | • | • | • | 0 | • | • | • | 0 | • | • | • | | • | • | • | • | • | | | | | • |
| KROLAC 322 SS 65 | FUNCTIONAL ACRYLIC RESIN | 65 | BUTYL ACETATE | 4,5-7,5 | 0,5-5,5 | 3,0 | 1,00 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | • | • | • | | • | | | • |
| KROLAC 496 BX 51 | FUNCTIONAL ACRYLIC RESIN | 51 | BUTANOL/XYLENE | 1,0-3,0 | 4,5-6,5 | 1,6-1,8 | 1,00 | | • | • | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | | • | • | | | | | |
| KROLAC 498 SS 50 | FUNCTIONAL ACRYLIC RESIN | 50 | BUTYL ACETATE | 1,0-4,0 | 4,5-7 | 1,6-1,8 | 1,00 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | | • | • | | | • | | |
| KROLAC 498 XS 50 | FUNCTIONAL ACRYLIC RESIN | 50 | BUTYL ACETATE/XYLENE | 1,2-3,0 | 4,5-7 | 1,9 | 1,00 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | | | • | • | | | • | | | | | |
| KROLAC 627 SS 70 | FUNCTIONAL ACRYLIC RESIN | 70 | BUTYL ACETATE | 7,0-11,0 | <25 | 4,5 | 1,05 | | • | 0 | • | • | • | 0 | • | • | • | • | • | • | • | | • | • | • | • | • | | • | | | |
| KROLAC 864 SS 70 | FUNCTIONAL ACRYLIC RESIN | 70 | BUTYL ACETATE | 7,0-11,0 | 3-7 | 4,2 | 1,00 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | • | • | • | | • | | | • |
| KROLAT 279 SS 80 | SATURATED POLYESTER RESIN | 80 | | | 0-3 | 4,2 | 1,12 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | • | • | • | | | | | • |
| KROLAT 284 MX 60 | SATURATED POLYESTER RESIN | 60 | PM GLYCOL ETHER/ SOLVENT NAPHTHA | | 11 | 4,0 | 1,05 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | | | • | • | • | • | | | | | | |
| KROLAT 381 XS 70 | SATURATED POLYESTER RESIN | 70 | BUTYL ACETATE/XYLENE | 1,7-2,3 | 10-18 | 5,3 | 1,05 | | • | 0 | • | • | • | 0 | • | • | • | 0 | • | • | | | | | • | | | | | | | • |
| KROLAT 586 SS 70 | SATURATED POLYESTER RESIN | 70 | BUTYL ACETATE | 0,4-0,8 | 15-21 | 5,8-6,0 | 1,10 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | • | • | • | | | | | | |
| KROLAT 586 SS 80 | SATURATED POLYESTER RESIN | 80 | BUTYL ACETATE | 3,5-6,0 | 15-21 | 5,8-6,0 | 1,10 | | • | 0 | • | 0 | 0 | 0 | • | • | 0 | • | • | • | | | | • | • | • | | | | | | |
| KROLAT 950 XX 70 | SATURATED POLYESTER RESIN | 70 | XYLENE | 4,0-6,0 | 4-9 | 3,0 | 1,07 | | • | 0 | • | 0 | • | 0 | • | • | 0 | • | • | • | • | | • | • | • | • | | | • | | | • |



CAR REFINISHES

We produce thermoplastic and thermosetting solvent borne acrylic resins for car refinishes for primers, topcoats, basecoats and clearcoats with:

- Good compatibility with other ingredients
- Relatively fast drying
- Superior adhesion / intercoat adhesion with relevant layers
- Superior physical and chemical resistance properties
- Superior weathering resistance

KROLAC : Thermosetting Acrylic ResinsKROLAT : Saturated Polyester ResinsKROLACS : Thermoplastic Acrylic Resins



Car Refinishes by Layers

| Layers | System | Kempro Products |
|---|--|--|
| 5. Clear Coat | Acrylic K | KROLAC 263 SS 70 KROLAC 203 SS 60 KROLAC 627 SS 70 |
| 4.b. Base Coat (solid,metallic or pearl colors) | Acrylic 1K Acrylic 2K | KROLAC 496 BX 51 KROLAC 203 SS 60 |
| 4.a. Top Coat (solid colors) | Acrylic 1K | KROLAC 263 SS 70 KROL ACS 725 KROL NA 7332 |
| 3. Primer / Surfacer | Acrylic 2K | KROLAC 263 SS 70 KROLAC 498 XS 50 KROLAC 311 XX 55 |
| 2. Polyester Putty | Unsaturated Polyester | |
| 1. Substrate | Steel, Aluminium, Galvanized steel, SMC | |

WOOD COATINGS



We produce thermoplastic and thermosetting solvent borne acrylic resins for wood coatings for the formulation of sealers, primers, topcoats and clearcoats with:

- Good compatibility with other ingredients
- Relatively fast drying
- Superior adhesion / intercoat adhesion with relevant layers
- Goods and ability/polishability
- Superior physical and chemical resistance properties
- Superior weathering resistance

KROLAC : Thermosetting Acrylic Resins KROLAT : Saturated Polyester Resins KROLACS : Thermoplastic Acrylic Resins

KROL PUHD: Polyurethane-Acrylic Hybrid Dispersions

KROL WPOA: Waterborne Hydroxyl-Functional **Acrylic Dispersions**



Wood Coatings by Layers

| Layers | System | Kempro Products |
|--|--------------------------------|--|
| 4.a. Clear Coat | Acrylic PU | KROLAC 295 SS 51 |
| 4.b. Top Coat (Solid) | Acrylic PU | KROLAC 295 SS 51 * KROLAC 263 SS 60 ** KROLAC 263 SS 70 ** |
| 3.a. Sealer | Acrylic PU | KROLAC 295 SS 51 |
| 3.b. Primer Surfacer | Acrylic PU | KROLAC 295 SS 51 * KROLAC 263 SS 60 ** KROLAC 263 SS 70 ** |
| 2. Wood Preservative / coloring | Synthetic antifungal colorants | |
| Substrate * Fast drying more economical non-vel | Natural wood, MDF | resistance |

^{*} Fast drying, more economical, non-yellowing, moderate physical and chemical resistances ** Non-yellowing, very high physical and chemical resistances, very high gloss



GENERAL INDUSTRIAL COATINGS

We produce thermoplastic and thermosetting coatings resins for general industrial coatings and various metal surfaces with:

- Good compatibility with other ingredients
- Relatively fast drying
- Superior adhesion / intercoat adhesion with relevant layers
- Superior physical and chemical resistance properties
- Superior weathering resistance

KROLAC : Thermosetting Acrylic Resins
 KROLAT : Saturated Polyester Resins
 KROLACS : Thermoplastic Acrylic Resins
 KROL BAS : Stryene - Acrylic Copolymer
 KROL PUS : 1K Polyurethane System
 KROL PAE : Polyaspartic Esters



Industrial Coatings by Layers

| Layers | System | Kempro Products | | |
|--------------|---|--|--|--|
| 3. Top Coat | Acrylic Polyurethane | KROLAC 263 SS 60 KROLAC 498 XS 50 KROLAC 864 XS 60 | | |
| 2. Primer | 2.a. Epoxy Anticorrosive 2.b. Acrylic Polyurethane | Conventional epoxy/ PA resins KROLAC 263 SS 60 KROLAC 498 XS 50 KROLAC 311 XX 55 KROLAC 254 SS 60 | | |
| 1. Substrate | Steel, Aluminium, Galvanized Steel | Degreasing Phosphating Electrodeposition (CED) | | |

PLASTIC COATINGS



We produce thermoplastic and thermosetting coatings resins for plastic parts of automotive, white goods, furniture and electronic industries with:

- Good compatibility with other ingredients
- Relatively fast drying
- Superior adhesion / intercoat adhesion with relevant layers
- Superior physical and chemical resistance properties

KROLAC : Thermosetting Acrylic ResinsKROL ACS : Thermoplastic Acrylic ResinsKROL WPUD : Polyurethane Dispersions

KROL WPUVC: UV Curable Polyurethane Dispersions



Plastic Coatings by Material Types

| Sector | Part / Material Type | Kempro Products |
|--------------------------|---------------------------------------|--------------------------------------|
| | Bumpers (PP+EPDM) | KROLAC 496 BX 51 KROLAC 263 SS 60 |
| | Mirror nests (ABS) | KROLAC 498 XS 50 KROLAC 263 SS 60 |
| 1. Automotive Industry | Front Grill (ABS) | KROLAC 498 XS 50 KROLAC 263 SS 60 |
| (Exteriors) | Side Bars (Flexible PVC) | KROLAC 498 XS 50 |
| | Door Handles (ABS) | KROLAC 498 XS 50 KROLAC 263 SS 60 |
| | Whell Covers (ABS, Polyamide) | KROLAC 498 XS 50 |
| | Dashboard (ABS) | KROLAC 263 SS 60 |
| | Door handles (ABS) | KROLAC 498 XS 50 KROLAC 263 SS 60 |
| 2. Automotive Industry | Door panels (PP / ABS) | KROLAC 498 XS 50 KROLAC 263 SS 60 |
| (Interiors) | Electronic parts (ABS) | KROL NA 7332 |
| | Other small parts (ABS) | KROL NA 7332 KROLAC 498 XS 50 |
| 3. Home Electronics | (ABS, HIPS, PS, PC) | KROL NA 7332 KROL ACS 1108 |
| 4. Furniture Accessories | (ABS, PS, HIPS) | KROL NA 7332 |
| 5. Others | (ABS, PVC, FRP, SMC, PS, PC, HIPS) | - |

Abbreviations:

ABS : Acrylonitrile butadiene styrene

PVC : Polyvinyl chloride

PS: Polystyrene

HIPS: High impact polystyrene

PC: Polycarbonate PP: Polypropylene

EPDM: Ethylene propylene diene monomer (rubber)

FRP: Fiber reinforced plastic (polyester)
SMC: Sheet moulding compound (polyester)



INK RESINS

PU resins for NC based printing inks are for printing on to flexible film which is used for the packaging of food products such as biscuits and cake. PU resins can be catagorized Conventional and Elastomeric.

Our resins have binder properties which can be combined with NC binders in ink systems, have excellent flexibility, with high adhesion force on the polyolefin substrate, high heat resistance, very glossy characteristics in

color, high covering characteristics over the black color and are compatible with all types of resins,

KROL PPF : Conventional PU SeriesKROL PUP : Elastomeric PU Series

KROL LAC M: Primer Lac for Metallized Surfaces

KROL ACS : Thermoplastic Acrylic ResinsKROL WPUD : Polyurethane Dispersions



Specifications:

| Product Name | Туре | %Solid (±2) | Solvent(s) | Viscosity (mPas) |
|------------------|---------------|----------------|-------------------------|---------------------|
| KROL PPF 560/75 | Polyurethane | 75 | IPA, E.Acetate | 350-1500 |
| KROL PPF 660 | Polyurethane | 100 | IPA, E.Acetate | 3000-5000 |
| KROL LAC M | Acrylic | 16 | Water, IPA E.Acetate | 500-700 |
| KROL PUP 160 | Polyurethane | 52 | E.Acetate | 1000-4000 |
| KROL PUP 160 Y | Polyurethane | 52 | E.Acetate | 1000-4000 |
| KROL PUP 180 Y | Polyurethane | 52 | E.Acetate | 1000-4000 |
| KROL ACS BMMA EA | Thermoplastic | 40 | E.Acetate | 500-1000 |
| KROL ACS 725 EA | Thermoplastic | 50 | E.Acetate | 3000-6000 |

KROL PPF: Conventional PU Series in Gravure and Flexo Inks for NC Systems:

- Provides excellent adhesion
- Improves heat resistance
- Avoids blocking
- Provides water and oil resistance
- Avoids migration
- Avoids to cause odour causing
- Could be compatible with all resins and solvents
- Avoids any solvent residue

KROL PUP: Elastomeric PU Series in Gravure and Flexo Inks

- Provides excellent adhesion for all plastic films
- Provides excellent band strength for lamination
- Avoids blocking
- Excellent flexibility
- Excellent friction resistance
- Excellent results of Heat-Seal jaw release

KROL LAC M: Metallized OPP, Metallized PET and Primary Lacquer for Aluminum Foil paper

- Provides transparent, brittle, rigid and glossy film
- Provides high UV resistance
- Provides high adhesion metallized OPP surfaces

KROL ACS BMMA EA: Resins in PVC Inks

- Provides transparent, colorless, rigid film
- Provides anti-blocking and non-sticky film
- Provides hydrophobic film
- Provides high chemical and hydrolysis resistance
- Provides high UV resistance
- Provides water and carbon dioxide barrier properties
- High adhesion of a binding feature

POLYASPARTIC ESTERS



Our 100 % solid, UV resistant polyaspartic esters are amine-functional reactive materials formulated for indoor and outdoor coating applications on concrete, steel or composite surfaces. When cured with aliphatic polyisocyanates, our KROL PAE polyaspartic esters provide superior performance, benefiticial for the end user including high build, which can improve return to service times.

Materials can be used alone or blended to achieve specific cure times.

- > KROL PAE 2420
- > KROL PAE 2520
- KROL PAE 2720

Application areas:

- ✓ Industrial coatings
- ✓ Corrosion protection
- ✓ Gel coats
- ✓ Automotive refinishing
- ✓ Construction



| Product Name | Viscosity (25°C, mPas) | Colour (Hazen) | Equivalent weight |
|---------------|---------------------------|-------------------|----------------------|
| KROL PAE 2420 | 800-1800 | ≤ 200 | approx.276 |
| KROL PAE 2520 | 600-1800 | ≤ 100 | approx.29 |
| KROL PAE 2720 | ≤ 500 | ≤ 100 | approx.295 |

- Rapid drying times at ambient temperatures
- Reduced number of coats; a much greater film thickness in a single operation
- Lower energy costs and CO₂ emissions
- Ideal for both interior and exterior applications
- Robust and easy application with standard equipments
- Near zero VOC content
- Adjustable flexibility through the chosen polyisocyanate
- Resistance to acids and alkali
- Abrasion resistance and impact strength
- Easy to repair



WATERBORNE ACRYLIC POLYOL DISPERSIONS FOR 1K & 2K INDUSTRIAL COATINGS

Kempro's new product range; KROL WPOA for waterborne acrylic polyol dispersions for 2K industrial coatings, offer superior solutions for the formulation of primers, topcoats and clearcoats with:

- High chemical & weathering resistance
- Very fast drying & curing with long pot life
- Excellent gloss
- Good compatibility with other ingredients
- Low thermo-yellowing with low VOC
- Good adhesion & levelling properties



Wood Coatings by Layers

| Layers | System | Kempro Products |
|---------------------------------|--------------------------------|--|
| 4.a. Clear Coat | Acrylic dispersion | KROL WPOA-43 KROL WPOA-44 KROL WPOA-45 KROL WPOA-46 KROL WPOA-51 KROL WPOA-52 KROL WPOA-54 |
| 4.b. Top Coat | Acrylic dispersion | KROL WPOA-43 KROL WPOA-44 KROL WPOA-45 KROL WPOA-46 KROL WPOA-51 KROL WPOA-51 KROL WPOA-52 KROL WPOA-54 |
| 3.a. Sealer | Acrylic PU | - |
| 3.b. Primer Surfacer | Acrylic dispersion | KROL WPOA-43 KROL WPOA-44 KROL WPOA-45 KROL WPOA-46 KROL WPOA-51 KROL WPOA-51 KROL WPOA-52 KROL WPOA-54 |
| 2. Wood Preservative / coloring | Synthetic antifungal colorants | - |
| 1. Substrate | Natural wood, MDF | - |

| Product Name | %Solid (<u>±</u> 2) | %OH | Co-Solvent |
|--------------|-------------------------|-----|------------|
| KROL WPOA-43 | 30 | 4,4 | PnB |
| KROL WPOA-44 | 35 | 4 | PnB |
| KROL WPOA-45 | 26 | 4,2 | PnB |
| KROL WPOA-46 | 28 | 4,3 | PnB |
| KROL WPOA-48 | 30 | 4 | PnB |
| KROL WPOA-51 | 37 | 4 | PnB |
| KROL WPOA-52 | 40 | 5 | PnB |
| KROL WPOA-54 | 35 | 4,7 | PnB |



Kempro's new designed water-based acrylic polyol dispersions give cost-effective and high stabile coatings to metal & wood surfaces with unique features:

- Excellent corrosion protection
- High performance clear & topcoat layers
- Good mechanical resistance
- High smooth surfaces
- KROL WPOA: Waterborne Hydroxyl-Functional Acrylic Dispersions



Industrial Coatings by Layers

| Layers | System | Kempro Products |
|--------------|--------------------------------------|--|
| 3. Top Coat | Acrylic dispersion | KROL WPOA-43 KROL WPOA-44 KROL WPOA-45 KROL WPOA-46 KROL WPOA-48 KROL WPOA-51 KROL WPOA-52 KROL WPOA-54 |
| | 2.a. Epoxy anticorrosive | - |
| 2. Primer | 2.b. Acrylic dispersion | KROL WPOA-43 KROL WPOA-44 KROL WPOA-45 KROL WPOA-46 KROL WPOA-48 KROL WPOA-51 KROL WPOA-52 KROL WPOA-54 |
| 1. Substrate | Steel, Aluminum, Galvanized Steel | - |

| Product Name | %Solid (±2) | %OH | Co-Solvent |
|--------------|----------------|-----|------------|
| KROL WPOA-43 | 30 | 4,4 | PnB |
| KROL WPOA-44 | 35 | 4 | PnB |
| KROL WPOA-45 | 26 | 4,2 | PnB |
| KROL WPOA-46 | 28 | 4,3 | PnB |
| KROL WPOA-48 | 30 | 4 | PnB |
| KROL WPOA-51 | 37 | 4 | PnB |
| KROL WPOA-52 | 40 | 5 | PnB |
| KROL WPOA-54 | 35 | 4,7 | PnB |



WATERBORNE POLYURETHANES

Kempro's broad water-based polyurethane dispersion portfolio supports the formulators from industries with the products with the properties below:

- Non-toxic
- Polution free
- Non-flammable
- Excellent adhesive properties
- Abrasion resistance
- Corrosion resistance
- Resistance to chemicals, solvents, and water
- Outstanding flexibility and impact resistance

KROL WPUD : Polyurethane Dispersions

KROL WPUVC : UV Curable Polyurethane Dispersions



Specifications:

Kempro Aliphatic Anionic Polyurethane Dispersion

| FI OUUCE NAITIE | i yhe | % SOIIU | (25°C, mPas) | (%) | '' 'S trength'' ^c (N/mm²) |
|-----------------|-----------|---------|--------------|-----------|--|
| KROL WPUDs 21 | Polyether | 40 | 150-1000 | 1600+-300 | 24+-8 |
| KROL WPUDs 75 C | Polyether | 40 | 150-1000 | 1400+_300 | 35+-8 |
| KROL WPUDs 110 | Polyether | 40 | 15-500 | 330+-100 | 23+-5 |
| KROL WPUDs 123 | PC | 40 | 15-500 | 843+.200 | 32+-5 |

Kempro Aliphatic Anionic/Nonionic Polyurethane Dispersion

| Product Name | Type | % Solid | Viscosity (25°C, mPas) | Fmax Elongation (%) | Max Tensile Strength (N/mm²) |
|---------------|-----------|---------|---------------------------|------------------------|------------------------------------|
| KROL WPUDs 74 | Polyether | 40 | 15-500 | 1300 +- 200 | 7+-3 |
| KROL WPUDs 90 | Polyether | 40 | 100-600 | 1300+_200 | 20+-5 |

Application areas:

- ✓ Industrial coatings
- ✓ Wood and furniture coatings
- Metal and plastic coatings for industrial applications
- ✓ High-grade floor coatings
- Automotive OEMs, transportation vehicles and refinishing coatings
- ✓ Textile coatings
- ✓ Fiber sizings
- Paper and printing ink industries.

Kempro Anionic UV Curable Dispersions

| Product Name | Type | % Solid | Viscosity (25°C, mPas) | Particle Size (nm) | рН |
|----------------------------------|-----------|----------|---------------------------|-----------------------|------------|
| KROL WPUVC 225 KROL WPUVC 236 | PC PC | 35 35 | 10 - 20 9-14 | 200 < 200 | 7-8 7-8 |
| KROL WPUVC 237 | Polyester | 35 | 10-15 | < 200 | 7-8 |

UV-curing polyurethane dispersions combine fast curing with excellent coating properties. These products are extensively used in wood coatings and are also growing very fast in plastic coatings. We are constantly expanding our portfolio to include additional applications.

3D PRINTING RESINS



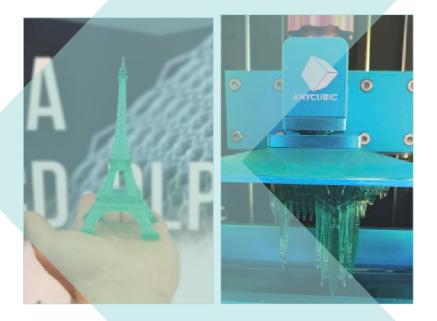
We design and produce tailor-made UV-curable 3D printing resins for LCD and DLP 3D Printers. Our 3D Printing resins are suitable for general shoe prototyping, shoe sole modelling applications as well as functional prototyping and small batch manufacturing.

Kempro brand names for 3D printing resins:

- > KROL 3D Model Provides excellent surface details with fast printability. It is recommended for general prototyping and shoe sole modelling applications.
- KROL 3D Flexy Tough Provides excellent combination of flexibility and durability. It is recommended for functional prototyping applications.
- KROL 3D Tough Provides high toughness and low viscosity as well as dimentional stability and fast printing for functional prototyping and small batch manufacturing.

| Product Name | Viscosity (mPas) | Tensile Strenght (MPa) | Elastic Modulus (Mpa) | Elongation @ Break |
|---------------------|---------------------|---------------------------|--------------------------|--------------------|
| KROL 3D Model | 250-350 | 35-40 | 450-500 | 10-15 |
| KROL 3D Flexy Tough | 150-250 | 40-45 | 500-550 | 35-45 |
| KROL 3D Tough | 250-350 | 45-50 | 650-700 | 30-35 |







ADHESIVE RESINS

Our adhesive resins can be catagorized as solutions & emulsions copolymers homopolymer and polyurethanes.

These resins can be applied for paper, wood, textiles, leather and plastics surfaces.

- KROL PVAC
- KROLACD
- > KROLAVS
- > KROLSOLVIOL
- > KROLTT



Adhesive Resins by Application

| Furniture | Paper | Textile and Leather |
|----------------|----------------|---------------------|
| KROL TT D3 | KROL PVAc EA | KROL PVAc EA |
| KROL TT D4 | KROL SOLVIOL | KROL AVS 33 |
| KROL PUO MARIN | KROL PUO MARIN | |
| | | KROL ACD PSA |

| Product Name | Туре | %Solid (±2) | Solvent(s) | Viscosity (mPas) |
|----------------|---|----------------|------------------------|---------------------|
| KROL TT D3 | Vinyl Acetate | 44 | Water | 12000-20000 |
| KROLTT D4 | Vinyl Acetate Vinyl Alcohol | 44 | Water | 12000-20000 |
| KROL PUO MARIN | Polyurethane | 90 | Solv. Naphta. | 6000 |
| KROL SOLVIOL | Vinyl Acetate Vinyl Alcohol Copolymer | 12 | Water | 3000-5000 |
| KROL PVAC EA | Vinylic | 36 | E.Aceatate, Acetone | 3000-4500 |
| KROL AVS 33 | Acrylic Vinylic | 33 | E.Aceatate, Acetone | 250-500 |
| KROL AVS 50 | Acrylic Vinylic | 50 | E.Aceatate, | 4000-6000 |
| KROL ACD PSA | Acrylic Copolymer | - 52 | Water | 100-300 |

TEXTILE PRODUCTS



Our textile products are divited into two main groups as printing paste and adhesives. Our all printing pastes are water based and formaldehyde & PVC & Phatalate & A.P.E.O & heavy metal free. Adhesive group consist of solution and emulsion pressure sensitive adhesives and solution resins.

- KEMPRINT
- KROL DISCHARGE
- > KROL PUD
- KROLAVS
- > KROLACD
- KROL WPUD



Textile Products by Application

| Printing Paste | Discharge Paste | Adhesives |
|----------------|-------------------|---------------|
| KEMPRINT TR | KROL DISCHARGE TR | KROL AVS 2018 |
| KEMPRINT WT | KROL DISCHARGE WT | KROL ACD PSA |
| | KROL ACTIVATOR | KROL PVAc EA |

| Product Name | Туре | %Solid (±2) | Solvent(s) | Viscosity (mPas) |
|-------------------|----------------------|----------------|-----------------------|---------------------|
| KEMPRINT WHITE | Polyurethane Acrylic | 53 | Water | 70000-85000 |
| KEMPRINT TRANS. | Polyurethane Acrylic | 45 | Water | 70000-85000 |
| KROL DISCHARGE WT | Acrylic | 54 | Water | 55000-70000 |
| KROL DISCHARGE TR | Acrylic | 42 | Water | 65000-90000 |
| KROL AVS 2018 | Acrylic Solution | 18 | Acetone | 150-200 |
| KROL ACD PSA | Acrylic Copolymer | 52 | Water | 100-300 |
| KROL PVAc EA | Vinylic | 36 | E.Acetate, Acetone | 3000-4500 |



RIGID PU SYSTEMS

Rigid polyurethane is two component system which is produced for furniture sector and decorative applications. This system is used for wood imitation such as furniture parts, air conditioner lids, mirror frames and some automotive parts. High mechanical strength and hardness, simple molding process, high production efficiency and excellent appearance are some of common characteristics of Rigid PU systems.

Advantages of our KROL PUR 2K;

- Lower application temperature
- Longer mould life
- 1:1 component ratio
- Excellent pigment and filling agent dispersion
- Pot life of 4 5 minutes
- Lower viscosity
- High humidity resistance



CONSTRUCTION CHEMICALS

We produce resins for insulation, concrete and floor coatings.



| Product | Resin Type | Solid Content (%) | Solvent System | Application |
|------------------|--------------------------------------|-------------------|----------------------|-----------------------------|
| KROL BAS A5 | THERMOPLASTIC ACRYLIC RESIN | 50 | XYLENE | Metal Coatings |
| KROL BAS N | THERMOPLASTIC ACRYLIC RESIN | 50 | XYLENE | Concrete and Floor Coatings |
| KROL ACS CURE | THERMOPLASTIC ACRYLIC RESIN | 16 | XYLENE | Concrete and Floor Coatings |
| KROL ACS SEAL | THERMOPLASTIC ACRYLIC RESIN | 20 | MEK, XYLENE | Concrete and Floor Coatings |
| KROL PUS 1K | 1K POLYURETHANE RESIN | 60 | TOLUEN | Concrete and Floor Coatings |
| KROL PUS 2K | 2K POLYURETHANE RESIN | 65 | ETHYL ACETATE/XYLENE | Concrete and Floor Coatings |
| KROL PRP 501 | PREPOLYMER, POLYURETHANE RESIN | 80 | XYLENE | Concrete and Floor Coatings |
| KROL WPUD 21 | POLYURETHANE DISPERSION | 40 | WATER | Concrete and Floor Coatings |
| KROL PRP 502 ARM | 1K POLYURETHANE PREPOLYMER AROMATIC | 80 | XYLENE | Concrete and Floor Coatings |
| KROL PRP 502 ALP | 1K POLYURETHANE PREPOLYMER ALIPHATIC | 80 | XYLENE | Concrete and Floor Coatings |



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