



## DIC SOUTH ASIA PRIVATE LIMITED

Head Office :  
903, B Wing, KANAKIA WALLSTREET, Chakala, Andheri Kurla Road, Andheri East, Mumbai 400093, India  
Tel : +91-22-4938 8015



## IDEAL CHEMI PLAST

a member of the DIC group



Office & Factory :  
Plot no. A-2, MIDC, Badlapur, Kulgao Thane,  
Maharashtra 421503, India  
Tel : +91-251-2690469



## Siam Chemical Industry

a member of the DIC group



Head Office :  
159/34 SERM-MIT TOWER 20th Floor., Soi Asoke, Sukhumvit 21 Road, Kwang North Klongtoey, Khet Wattana, Bangkok 10110, Thailand  
TEL : +66-2-260-7400 FAX : +66-2-260-7408-9  
Factory :  
549 Moo 7 Sukhumvit Road KM. 36 T.Bangpoomai, A.Muang, Samutprakarn 10280, Thailand  
TEL : +66-2-323-9215 FAX : +66-2-323-9616  
<http://www.siamchem.com>



## PT.PARDIC JAYA CHEMICALS

a member of the DIC group



Head Office & Factory :  
Jl. Gatot Subroto Km. 1, Kel. Cibodas - Kota Tangerang, 15138, Banten, Indonesia  
TEL : +62-21-570-7330 FAX : +62-21-552-3753  
<http://www.pardic.co.id>



## DIC Asia Pacific Pte Ltd.

Regional Head Office :  
78 Shenton Way, No.19-01, Singapore 079120  
TEL : +65-6224-0600 FAX : +65-6224-3313  
<http://www.dic-global.com/ap/en>

## DIC Corporation

DIC Building, 7-20, Nihonbashi 3-chome, Chuo-ku, Tokyo 103-8233, Japan



Visit our coating resins webpage



Color & Comfort



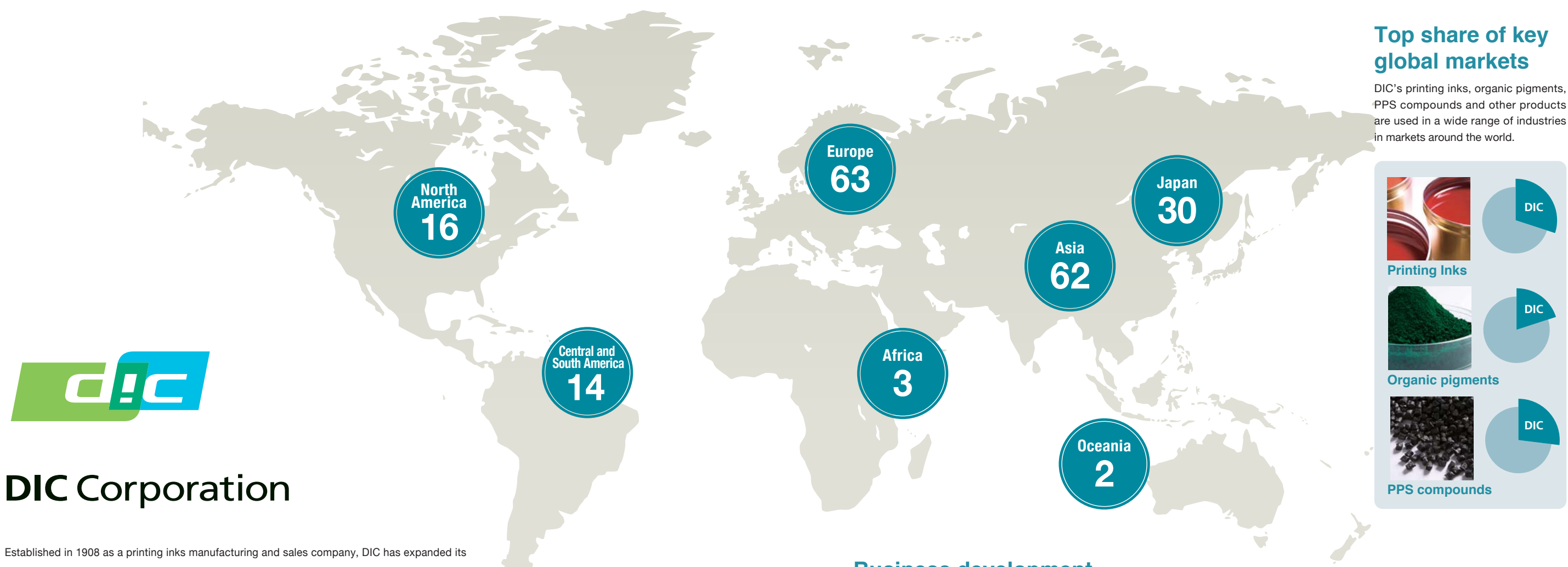
## PRODUCT GUIDE

# COATING RESINS 2022

## India

DIC Corporation

We are a fine chemicals company that works to bring people “Color & Comfort”



**DIC Corporation**

Established in 1908 as a printing inks manufacturing and sales company, DIC has expanded its mainstay organic pigments and synthetic resins businesses while at the same time cultivating world-class related core technologies. Since then, DIC has leveraged these technologies to build a broad portfolio encompassing materials and finished products. This has enabled it to respond to market needs by providing customers in the automotive, electronics, food packaging, housing and other industries with solutions that bring “color” and “comfort” to people’s lives.

Looking ahead, DIC—today a multinational corporate group with operations in more than 60 countries and territories—will redouble its efforts to contribute to environmental protection and to the realization of a safe and sustainable society.

| Corporate data                        |                                                                          | (As of December 31, 2021) |
|---------------------------------------|--------------------------------------------------------------------------|---------------------------|
| Company name                          | : DIC Corporation                                                        |                           |
| Headquarters                          | : DIC Building, 7-20, Nihonbashi 3-chome, Chuo-ku, Tokyo 103-8233, Japan |                           |
| Date of foundation                    | : February 15, 1908                                                      |                           |
| Paid-in capital                       | : ¥96.6 billion                                                          |                           |
| Number of employees                   | : Consolidated 22,474, Non-consolidated 3,681                            |                           |
| Number of subsidiaries and affiliates | : 189 (Domestic:29, Overseas:160)                                        |                           |

**Business development**

Through new three business groups which reorganized focusing value provided, the DIC Group works to provide products that respond to the needs of society and its customers.

**Packaging & Graphic**

Packaging materials that bring safety and peace of mind

**Printing Material Products Division**  
Packaging inks, Jet inks, etc.

**Packaging Material Products Division**  
Polystyrene, Multilayer films, etc.

**Color & Display**

Color and display materials that make life colorful

**Color Material Products Division**  
Functional pigments, Natural colorants, etc.

**Display Material Products Division**  
Liquid crystal materials, etc.

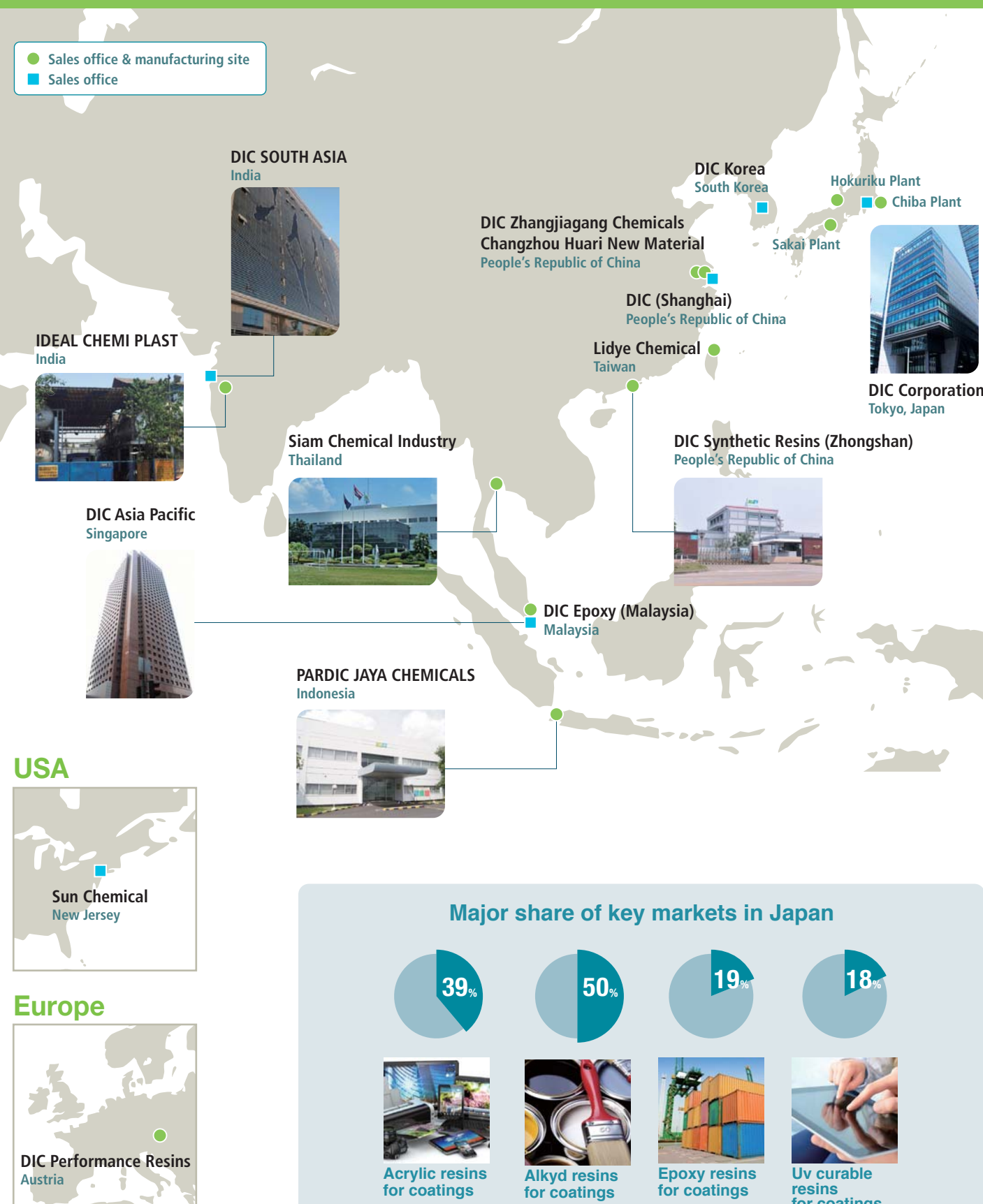
**Functional Products**

Functional products that add comfort

**Performance Material Products Division**  
Waterborne and UV-curable resins, Resins for electronics, etc.

**Composite Material Products Division**  
Compounds and industrial adhesive tapes for automotive application, Hollow-fiber membrane modules, etc.

## DIC resins network



## Automotive refinishing

- Acrylic resins
- Unsaturated polyester resins (UPR)
- Polyester resins
- Epoxy ester resins
- Alkyd resins

P05

## Thermosetting metal coatings

- Polyester resins
- Amino resins
- Acrylic resins
- Powder resins
- Epoxy resins
- Epoxy ester resins
- Alkyd resins

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## Protective coatings

- Acrylic resins
- Waterborne acrylic resins & polyisocyanates
- Epoxy resins
- Epoxy ester resins
- Polyamide resins
- Silicone modified resins
- Organic-inorganic hybrid resins
- Alkyd resins

P11

## Plastic & glass coatings

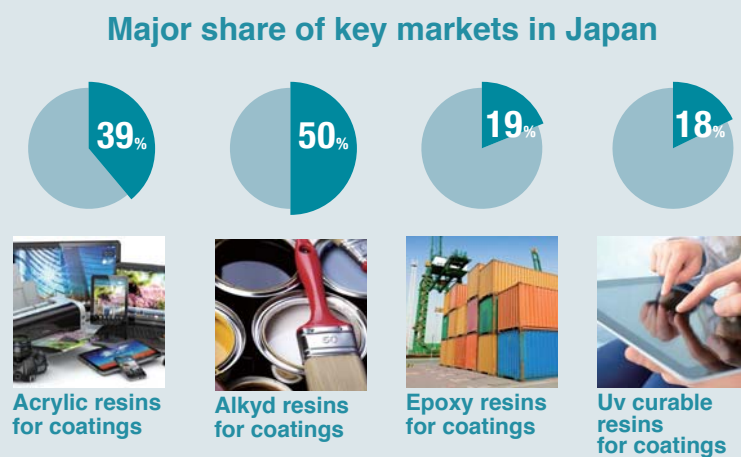
- Acrylic resins
- Olefin modified acrylic resins
- UV curable resins
- Alkyd resins

P15

## Wood coatings

- Acrylic resins
- Waterborne acrylic resins
- Alkyd resins
- UV curable resins
- Unsaturated polyester resins (UPR)
- Polyester resins
- Polyurethane resins

P17

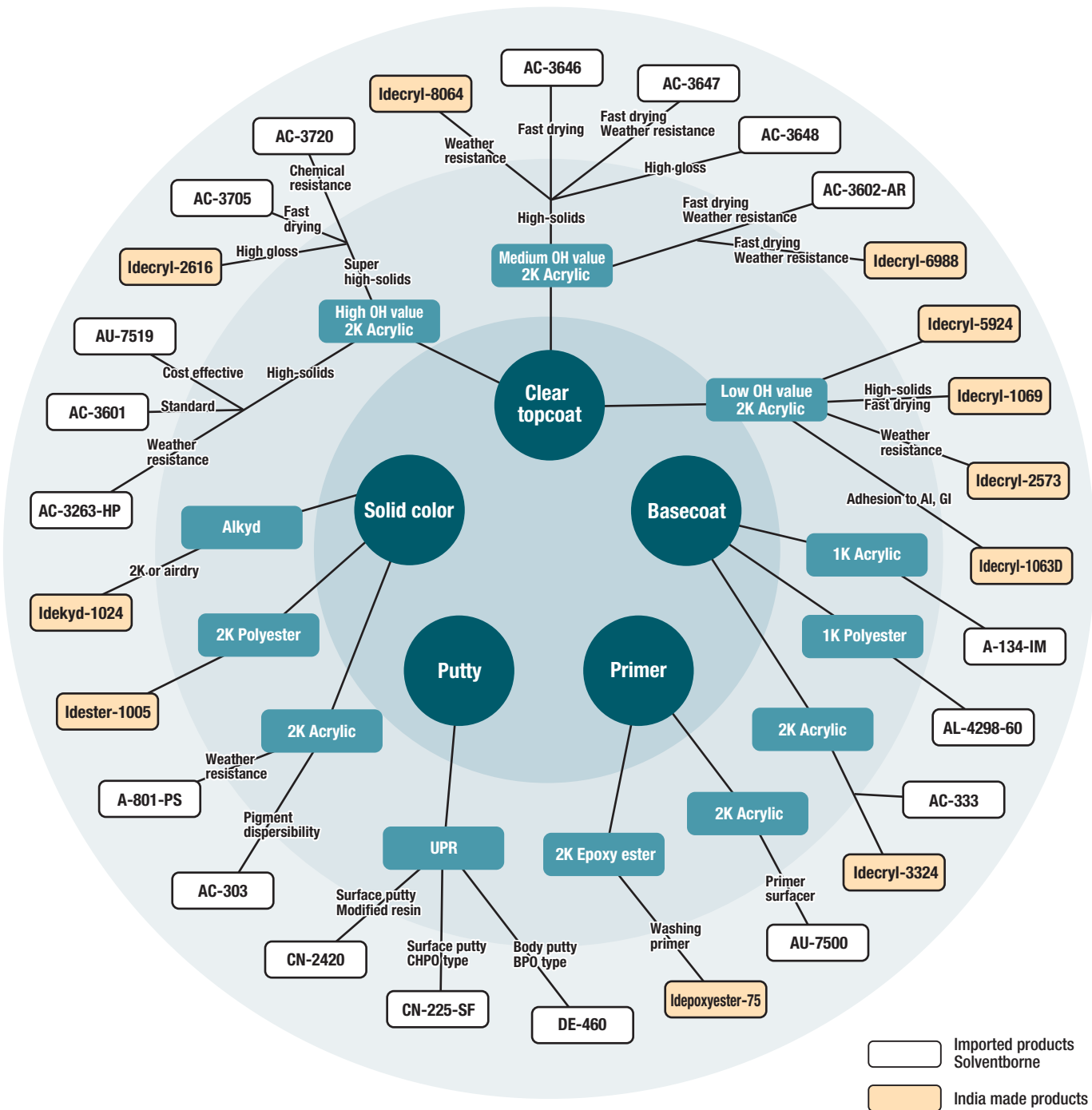


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Visit our coating resins webpage

# Product tree for automotive refinishing



# Product characteristics for automotive refinishing

## Clear topcoat

| Type                       | Product name       | Solvent                    | Solids content, % | Viscosity, Gardner                                                   | OH value on solids, mgKOH/g | OH content on solids, % | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                                   |
|----------------------------|--------------------|----------------------------|-------------------|----------------------------------------------------------------------|-----------------------------|-------------------------|-------------------------------|----------------|----------------------------------------------------------------------------|
| High OH value 2K Acrylic   | ACRYDIC AC-3263-HP | Butyl acetate              | 69.0 - 71.0       | Z - Z3                                                               | 124 - 133                   | 3.8 - 4.0               | 4 - 10*                       | 1 max.         | High-solids, appearance, hardness, chemical resistance, weather resistance |
|                            | ACRYDIC AC-3601    | Butyl acetate              | 69.0 - 71.0       | Z2 - Z4                                                              | 154 - 166*                  | 4.7 - 5.0               | 4 - 10*                       | 1 max.         | High gloss, hardness, chemical resistance, fast drying                     |
|                            | ACRYDIC AU-7519    | Xylene, Butyl acetate      | 69.0 - 71.0       | Z2 - Z4                                                              | 145 - 155                   | 4.4 - 4.7               | 4 - 10*                       | 1 max.         | High gloss, hardness, chemical resistance, cost effective                  |
|                            | Idecryl-2616       | Xylene, Butyl acetate      | 72.5 - 75.5       | Z3 - Z4                                                              | 150                         | 4.5*                    | 5 - 8                         | 1 max.         | High gloss (DOI), gasoline resistance                                      |
|                            | ACRYDIC AC-3705    | Butyl acetate              | 74.0 - 76.0       | Z4 - Z6                                                              | 145 - 155                   | 4.4 - 4.7               | 6 max.*                       | 1 max.         | Super high-solids, chemical resistance                                     |
|                            | ACRYDIC AC-3720    | Butyl acetate              | 79.0 - 81.0       | Z3 - Z5                                                              | 145 - 155                   | 4.4 - 4.7               | 5 - 12*                       | 1 max.         | Super high-solids, high gloss (DOI)                                        |
| Medium OH value 2K Acrylic | Idecryl-8064       | Xylene                     | 68.0 - 72.0       | 48 - 58 (Seconds, 30°C, Ford cup #4, 77 % solution in Butyl acetate) | 95 - 105                    | 2.9 - 3.2*              | 5 max.                        | 1 max.         | High gloss, weather resistance                                             |
|                            | ACRYDIC AC-3646    | Butyl acetate              | 69.0 - 71.0       | Z3 - Z6                                                              | 90 - 100                    | 2.7 - 3.0               | 5 max.*                       | 1 max.         | Fast drying, high gloss, adhesion                                          |
|                            | ACRYDIC AC-3647    | Butyl acetate              | 69.0 - 71.0       | Z5 - Z7                                                              | 90 - 100                    | 2.7 - 3.0               | 5 max.*                       | 1 max.         | Fast drying, high gloss, adhesion, weather resistance                      |
|                            | ACRYDIC AC-3648    | Butyl acetate              | 69.0 - 71.0       | Z - Z3                                                               | 90 - 100                    | 2.7 - 3.0               | 5 max.*                       | 1 max.         | High gloss, cost effective                                                 |
|                            | ACRYDIC AC-3602-AR | Xylene, Butyl acetate      | 59.0 - 61.0       | X - Z                                                                | 90 - 100                    | 2.7 - 3.0               | 8.3 - 12.5*                   | 1 max.         | Fast drying, weather resistance                                            |
|                            | Idecryl-6988       | Cellosolve acetate, Xylene | 58.0 - 62.0       | Z1 - Z3                                                              | 75 - 85                     | 2.3 - 2.8*              | 5 max.                        | 1 max.         | Fast drying, weather resistance                                            |
| Low OH value 2K Acrylic    | Idecryl-5924       | Xylene                     | 58.0 - 62.0       | Z - Z1                                                               | 85                          | 2.6                     | 8 max.*                       | 1 max.         | Fast drying                                                                |
|                            | Idecryl-1069       | Xylene                     | 58.0 - 62.0       | Z1 - Z2                                                              | 70 - 75                     | 2.1 - 2.3*              | 8 max.                        | 1 max.         | Fast drying                                                                |
|                            | Idecryl-2573       | Xylene                     | 68.0 - 72.0       | Z3 - Z4                                                              | 68 - 72                     | 2.1 - 2.2*              | 8 max.                        | 1 max.         | Weather resistance                                                         |
|                            | Idecryl-1063D      | Xylene                     | 63.0 - 67.0       | 150 - 200 (Poises)                                                   | 75 - 85                     | 2.3 - 2.6*              | 12 max.                       | 1 max.         | Adhesion to aluminium and galvanized steel (GI)                            |

\* Calculated from solution value

## Basecoat

| Type         | Product name         | Solvent                                             | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | OH content on solids, % | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                             |
|--------------|----------------------|-----------------------------------------------------|-------------------|--------------------|-----------------------------|-------------------------|-------------------------------|----------------|----------------------------------------------------------------------|
| 1K Acrylic   | ACRYDIC A-134-IM     | Toluene, Butyl acetate                              | 49.0 - 51.0       | Z - Z3             | —                           | —                       | 2 - 10*                       | 1 max.         | High gloss, gasoline resistance, weather resistance                  |
| 1K Polyester | BECKOLITE AL-4298-60 | Xylene, Propylene glycol methyl ether, Solvesso-100 | 59.0 - 61.0       | V - X              | 75 - 85*                    | 2.3 - 2.6*              | 3 - 10*                       | 2 max.         | Compatibility with CAB, adhesion, flexibility, aluminium orientation |
| 2K Acrylic   | ACRYDIC AC-333       | Toluene, Butyl acetate                              | 49.0 - 51.0       | W - Y              | 66 - 78                     | 2.0 - 2.4*              | 4 - 8*                        | 1 max.         | Adhesion, hardness, fast drying, solvent resistance                  |
|              | Idecryl-3324         | Butyl acetate                                       | 48.0 - 52.0       | 20 - 40 (Poises)   | 45 - 48                     | 1.4 - 1.5*              | 6 max.                        | 1 max.         | Compatibility with CAB                                               |

\* Calculated from solution value

## Primer

| Type           | Product name    | Solvent | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | OH content on solids, % | Acid value on solids, mgKOH/g | EEW on solids, g/eq | Color, Gardner | Features                                                |
|----------------|-----------------|---------|-------------------|--------------------|-----------------------------|-------------------------|-------------------------------|---------------------|----------------|---------------------------------------------------------|
| 2K Acrylic     | ACRYDIC AU-7500 | Xylene  | 69.0 - 71.0       | Z5 - Z7            | 55 - 65                     | 1.7 - 2.0               | 5 max.*                       | —                   | 1 max.         | Adhesion to steel and galvanized steel (GI), high gloss |
| 2K Epoxy ester | Idepoxyster-75  | Xylene  | 73.0 - 77.0       | 46 - 148 (Poises)  | 80 - 90                     | 2.4 - 2.7*              | 5 max.                        | 625 - 775           | 10 max.        | Adhesion to untreated metal surface                     |

\* Calculated from solution value

## Putty

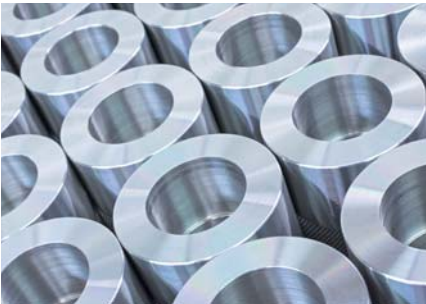
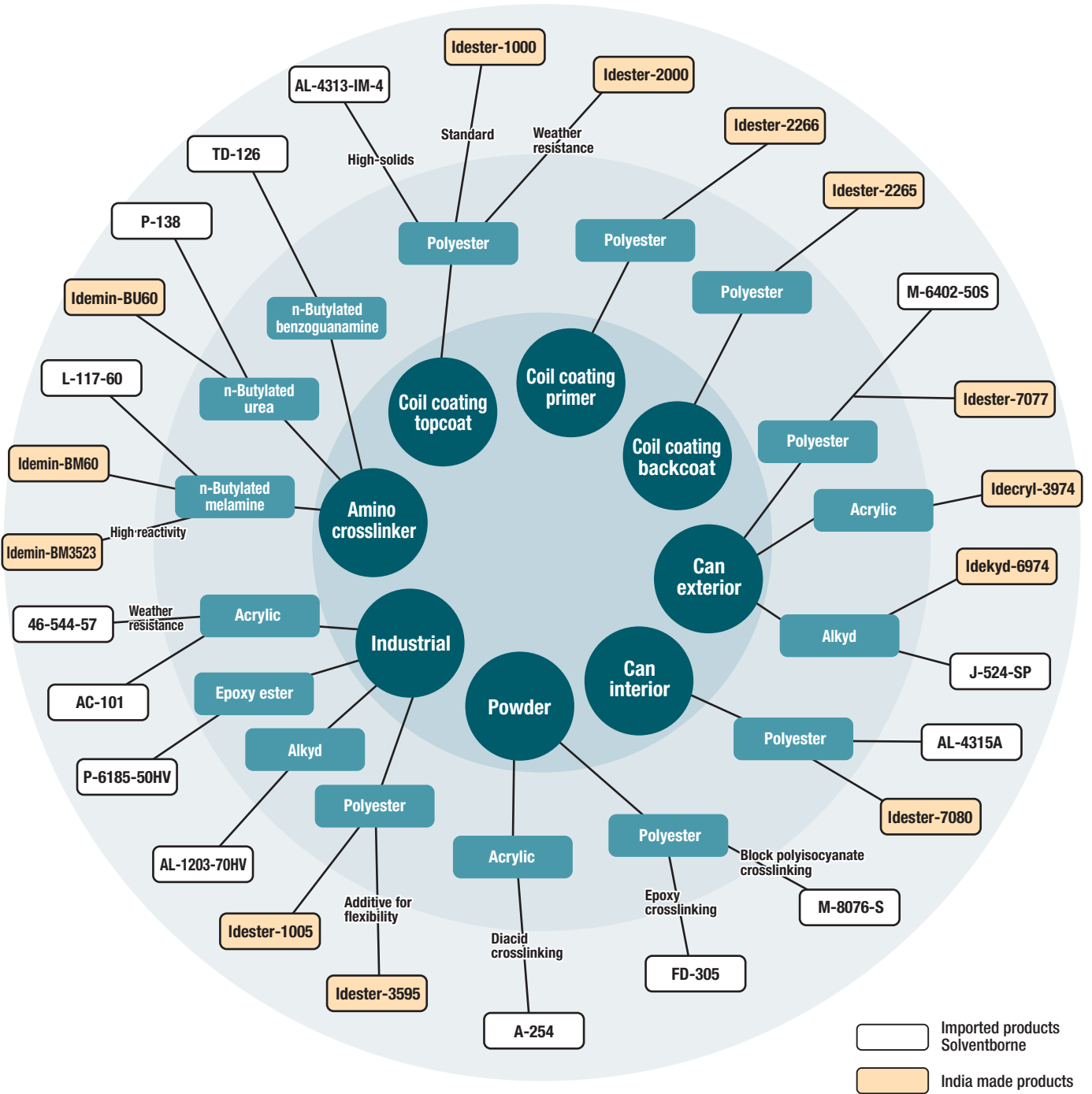
| Type | Product name       | Viscosity, Gardner | Gel time, minutes at 25°C | Gel time, methods at 25°C*                       | Features                                                         |
|------|--------------------|--------------------|---------------------------|--------------------------------------------------|------------------------------------------------------------------|
| UPR  | SUNDHOMA DE-460    | M - P              | 6:30 - 7:30               | Resin / 6% Co-oct / MEKPO = 50gr / 0.5mL / 2.0gr | Hardness, sandability, flexibility, adhesion                     |
|      | SUNDHOMA CN-225-SF | M - P              | 12:00 - 18:00             | Resin / 6% Co-oct / MEKPO = 50gr / 0.5mL / 2.0mL | Fast drying, sandability, workability                            |
|      | SUNDHOMA CN-2420   | Q - S              | 10:00 - 16:00             | Resin / 6% Co-oct / M-60(g) = 100 / 1 / 2        | Adhesion to galvanized steel (GI) and aluminium, heat resistance |

## Solid color

| Type         | Product name     | Solvent                | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | OH content on solids, % | Acid value on solids, mgKOH/g | Oil length | Type of oil | Color, Gardner | Features                                        |
|--------------|------------------|------------------------|-------------------|--------------------|-----------------------------|-------------------------|-------------------------------|------------|-------------|----------------|-------------------------------------------------|
| 2K Acrylic   | ACRYDIC AC-303   | Xylene, Butyl acetate  | 69.0 - 71.0       | Z4 - Z6            | 80 - 88*                    | 2.4 - 2.7*              | 11 - 16*                      | —          | —           | 1 max.         | Adhesion, recoatability, pigment dispersibility |
|              | ACRYDIC A-801-PS | Toluene, Butyl acetate | 49.0 - 51.0       | R - U              | 94 - 106                    | 2.8 - 3.2*              | 2 - 8*                        | —          | —           | 1 max.         | High gloss, adhesion, pigment dispersibility    |
| 2K Polyester | Idester-1005     | Xylene                 | 68.0 - 72.0       | 20 - 30 (Poises)   | 95 - 105                    | 2.9 - 3.2*              | 10 max.                       | —          | —           | 2 max.         | High gloss, compatibility with CAB              |
| Alkyd        | Idekyd-1024      | Xylene                 | 58.5 - 61.5       | Z1 - Z3            | 55 - 75                     | 1.7 - 2.3*              | 10 max.                       | 40         | Soybean     | 6 max.         | Fast drying, high gloss                         |

\* Calculated from solution value

Product tree of thermosetting resins for metal coatings



Product characteristics of thermosetting resins for metal coatings

Coil coating topcoat

| Type      | Product name           | Solvent                                   | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                  |
|-----------|------------------------|-------------------------------------------|-------------------|--------------------|-----------------------------|-------------------------------|----------------|-----------------------------------------------------------|
| Polyester | BECKOLITE AL-4313-IM-4 | Solvesso-100, Solvesso-150, Cyclohexanone | 39.0 - 41.0       | (V - W) - (X - Y)  | 16                          | 0.5 - 2.5                     | 3 max.         | Adhesion, flexibility, chemical resistance, hardness      |
|           | Idester-1000           | Solvesso-150, Butyl cellosolve            | 58.0 - 62.0       | Z - Z2             | 45 - 55                     | 10 max.*                      | 1 max.         | General purpose, hydrolysis stability, weather resistance |
|           | Idester-2000           | Solvesso-150, Butyl cellosolve            | 63.0 - 67.0       | Z - Z1             | 45 - 55                     | 10 max.*                      | 2 max.         | Hydrolysis stability, weather resistance                  |

Coil coating primer

| Type      | Product name | Solvent                        | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | Acid value on solids, mgKOH/g | Color, Gardner | Features                 |
|-----------|--------------|--------------------------------|-------------------|--------------------|-----------------------------|-------------------------------|----------------|--------------------------|
| Polyester | Idester-2266 | Solvesso-150, Butyl cellosolve | 58.0 - 62.0       | Z1 - Z2            | 15 - 25                     | 4 max.*                       | 1 max.         | Boiling water resistance |

Coil coating backcoat

| Type      | Product name | Solvent                        | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | Acid value on solids, mgKOH/g | Color, Gardner | Features      |
|-----------|--------------|--------------------------------|-------------------|--------------------|-----------------------------|-------------------------------|----------------|---------------|
| Polyester | Idester-2265 | Solvesso-150, Butyl cellosolve | 63.0 - 67.0       | X - Z              | 130 - 150                   | 10 max.*                      | 1 max.         | Foam adhesion |

Can exterior

| Type      | Product name         | Solvent                                                             | Solids content, % | Viscosity, Gardner                                                        | Acid value on solids, mgKOH/g | Oil length | Type of oil | Color, Gardner | Features                                                                     |
|-----------|----------------------|---------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------|-------------------------------|------------|-------------|----------------|------------------------------------------------------------------------------|
| Polyester | BECKOLITE M-6402-50S | Solvesso-150, Butyl cellosolve, Isopropyl glycol, Xylene, n-Butanol | 49.0 - 51.0       | U - (V - W)                                                               | 5 - 10*                       | —          | —           | 1 max.         | Flexibility, adhesion, high gloss, color retention, boiling water resistance |
|           | Idester-7077         | Solvesso-150                                                        | 58.0 - 62.0       | Z5 - Z6                                                                   | 10 max.                       | —          | —           | 1 max.         | Good tooling property, high gloss, Non-yellowing                             |
| Acrylic   | Idecryl-3974         | Butyl cellosolve                                                    | 38.0 - 42.0       | W - Y                                                                     | 80 - 90                       | —          | —           | 1 max.         | Hardness, high gloss                                                         |
| Alkyd     | Idekyd-6974          | Solvesso-150                                                        | 68.0 - 72.0       | 60 - 80 (seconds, 30°C, Ford cup B-4, 50% resin solution in Solvesso-150) | 15 max.                       | 38         | —           | 6 max.         | Non-yellowing, high gloss                                                    |
|           | ALUKIDIR J-524-SP    | Xylene                                                              | 59.0 - 61.0       | Z2 - Z4                                                                   | 5 - 10*                       | 32         | Coconut     | 2 max.         | Non-yellowing, high gloss, hardness, weather resistance                      |

Can interior

| Type      | Product name       | Solvent                      | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | Acid value on solids, mgKOH/g | Color, Gardner | Features                           |
|-----------|--------------------|------------------------------|-------------------|--------------------|-----------------------------|-------------------------------|----------------|------------------------------------|
| Polyester | BECKOLITE AL-4315A | Solvesso-150, Dibasic ester  | 39.0 - 41.0       | Z - Z4             | 11                          | 5 max.*                       | 5 max.         | Flexibility, adhesion              |
|           | Idester-7080       | Butyl cellosolve, Solvent CX | 63.0 - 67.0       | Y - Z1             | 80 - 100                    | 10 max.                       | 2 max.         | Can be a substitute of epoxy resin |

Powder

| Type      | Product name     | Function value | Unit                | Softening point | Methods             | Features                                                                                                  |
|-----------|------------------|----------------|---------------------|-----------------|---------------------|-----------------------------------------------------------------------------------------------------------|
| Polyester | FINEDIC M-8076-S | 38.0 - 48.0    | OHV, mgKOH/g        | 109 - 113       | Ring & Ball, °C     | Hydroxyl functional polyester, flow ability, flexibility, hardness                                        |
|           | FINEDIC FD-305   | 30.0 - 36.0    | Acid value, mgKOH/g | 106 - 112       | Ring & Ball, °C     | Carboxy functional polyester, flow ability, impact resistance, anti-corrosion, storage stability as paint |
| Acrylic   | FINEDIC A-254    | 515 - 555      | EEW, g/eq           | 46 - 54         | Melt Index at 125°C | Epoxy functional acrylic resin, high gloss, anti-corrosion                                                |

Product characteristics of thermosetting resins for metal coatings

Industrial

| Type        | Product name          | Solvent                 | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | Acid value on solids, mgKOH/g | Oil length | Type of oil    | Color, Gardner | Features                                                                                  |
|-------------|-----------------------|-------------------------|-------------------|--------------------|-----------------------------|-------------------------------|------------|----------------|----------------|-------------------------------------------------------------------------------------------|
| Polyester   | Idester-3595          | —                       | 98.0 - 100.0      | 300 - 450 (Poises) | 34 - 40                     | 1 max.                        | —          | —              | 1 max.         | Polymeric plasticizer, anti-staining, hydrolysis stability                                |
|             | Idester-1005          | Xylene                  | 68.0 - 72.0       | 20 - 30 (Poises)   | 95 - 105                    | 10 max.                       | —          | —              | 2 max.         | High gloss, compatibility with CAB                                                        |
| Alkyd       | ALUKIDIR AL-1203-70HV | Xylene, White spirit    | 69.0 - 71.0       | >Z8                | —                           | 4 - 10*                       | 39         | Soybean        | 4 max.         | Adhesion, hardness and flexibility, high viscosity                                        |
| Epoxy ester | ALUKIDIR P-6185-50HV  | Xylene                  | 49.0 - 51.0       | T - W              | —                           | 6 max.*                       | —          | Soybean oil FA | 4 max.         | Adhesion, flexibility, chemical resistance, anti-corrosion                                |
| Acrylic     | ACRYDIC AC-101        | Solvesso-100, n-Butanol | 67.0 - 69.0       | (Z5 - Z6) - Z6     | 87*                         | 8 - 12*                       | —          | —              | 1 max.         | High-solids, stain resistance, adhesion, weather resistance, metallic pigment orientation |
|             | ACRYDIC 46-544-57     | Xylene, n-Butanol       | 56.0 - 58.0       | Y - Z1             | 35*                         | 3 - 9*                        | —          | —              | 1 max.         | Adhesion on various kinds of metal, anti-corrosion                                        |

\* Calculated from solution value

Amino crosslinker

| Type                       | Product name    | Solvent                              | Solids content, % | Viscosity, Gardner | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                |
|----------------------------|-----------------|--------------------------------------|-------------------|--------------------|-------------------------------|----------------|---------------------------------------------------------|
| n-Butylated melamine       | Idemin-BM3523   | n-Butanol, Xylene                    | 58.0 - 62.0       | 8 - 12 (Poises)    | 2 max.                        | 1 max.         | High reactivity                                         |
|                            | Idemin-BM60     | n-Butanol, Xylene                    | 60.0 - 64.0       | 3 - 6 (Poises)     | 2 max.                        | 1 max.         | Compatibility with acrylic and polyester resins         |
|                            | AMIDIR L-117-60 | n-Butanol, Xylene                    | 58.0 - 62.0       | F - J              | 2 max.*                       | 1 max.         | Compatibility with acrylic resins                       |
| n-Butylated urea           | Idemin-BU60     | n-Butanol, Xylene                    | 58.0 - 62.0       | 10 - 20 (Poises)   | 4 max.                        | 1 max.         | Low free formaldehyde                                   |
|                            | AMIDIR P-138    | Xylene, n-Butanol, Methanol, Ethanol | 59.0 - 63.0       | R - T              | 2 - 7*                        | 1 max.         | Compatibility with epoxy resins, low temperature curing |
| n-Butylated benzoguanamine | AMIDIR TD-126   | Xylene, n-Butanol                    | 58.0 - 62.0       | A1 - C             | 2 max.*                       | 1 max.         | Flexibility, high gloss                                 |

\* Calculated from solution value

Automotive Refinishing

Thermosetting Resins for Metal Coatings

Protective Coatings

Plastic & Glass Coatings

Wood Coatings



|                        |                                         |                     |                          |               |
|------------------------|-----------------------------------------|---------------------|--------------------------|---------------|
| Automotive Refinishing | Thermosetting Resins for Metal Coatings | Protective Coatings | Plastic & Glass Coatings | Wood Coatings |
|------------------------|-----------------------------------------|---------------------|--------------------------|---------------|



# Product characteristics for protective coatings

## Heavy duty & Construction materials

| Type                     | Product name         | Solvent                                            | Solids content, % | Viscosity, Gardner                                            | OH value on solids, mgKOH/g                | OH content on solids, % | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                                   |
|--------------------------|----------------------|----------------------------------------------------|-------------------|---------------------------------------------------------------|--------------------------------------------|-------------------------|-------------------------------|----------------|----------------------------------------------------------------------------|
| Airdry/2K Epoxy ether    | Idepoxyether-7697    | Xylene                                             | 63.0 - 67.0       | 40 - 60 (Seconds, Ford cup #4, 40% solution in xylene, 30°C)  | 73 - 78                                    | 2.2 - 2.4*              | —                             | 14 max.        | Anti-corrosion                                                             |
| 1K Epoxy                 | EPICLON H-305-45T    | Toluene, Xylene, n-Butanol, Methoxy propyl acetate | 44.0 - 46.0       | Z1 - Z4                                                       | —                                          | —                       | —                             | 3 max.         | Adhesion, pigment dispersibility, anti-corrosion                           |
| 2K Epoxy                 | Idepoxy-7954         | Xylene                                             | 73.0 - 77.0       | W - Y                                                         | 620 - 680 (EEW on solids, g/eq)            | —                       | —                             | 18 max.        | High-solids, low viscosity, hardness, chemical resistance                  |
|                          | EPICLON 850          | —                                                  | > 99.0            | 11000 - 15000 (mPa.s)                                         | 184 - 194 (EEW on solids, g/eq)            | —                       | —                             | 2 max.         | Hardness, chemical resistance, adhesion, heat resistance                   |
|                          | LUCKAMIDE 12-242     | Toluene                                            | 69.0 - 71.0       | X - Z1                                                        | 160 - 200 (Amine value on solids, mgKOH/g) | —                       | —                             | 9 max.         | Polyamide hardener, adhesion, flexibility, fast drying, anti-corrosion     |
| Organic-inorganic hybrid | CERANATE SSA-500     | Butyl acetate, Methoxypropyl acetate               | 54.0 - 56.0       | 200 - 500 (mPa.s)                                             | 65 - 75                                    | 2.0 - 2.3               | 2.0 - 6.0                     | —              | Weather resistance, adhesion to glass, transparency, flexibility           |
| Polyester                | Idester-2749         | —                                                  | 96.0 - 100.0      | 20 - 40 (Poisés(23°C))                                        | 155 - 165                                  | 4.7 - 5.0*              | 3 max.                        | 6 - 8          | Fast drying, high gloss                                                    |
| 2K Acrylic               | ACRYDIC AC-3723      | Butyl acetate                                      | 79.0 - 81.0       | Z5 - Z7                                                       | 130 - 140                                  | 3.9 - 4.2*              | 8 max.*                       | 1 max.         | Super high-solids, anti-corrosion, high gloss                              |
|                          | Idecryl-2616         | Xylene, Butyl acetate                              | 72.5 - 75.5       | Z3 - Z4                                                       | 150                                        | 4.5*                    | 5 - 8                         | 1 max.         | High gloss (DOI), gasoline resistance                                      |
|                          | ACRYDIC AC-3263-HP   | Butyl acetate                                      | 69.0 - 71.0       | Z - Z3                                                        | 124 - 133                                  | 3.8 - 4.0*              | 4 - 10*                       | 1 max.         | High-solids, appearance, hardness, chemical resistance, weather resistance |
|                          | Idecryl-1063         | Xylene                                             | 68.0 - 72.0       | 80 - 100 (Seconds, Ford cup #4, 50% solution in xylene, 30°C) | 70 - 73                                    | 2.1 - 2.2*              | 8 max.                        | 1 max.         | Intercoat adhesion                                                         |
|                          | Idecryl-8067         | Xylene, Methoxy propyl acetate                     | 58.0 - 62.0       | Z1 - Z3                                                       | 90 - 100                                   | 2.7 - 3.0*              | 5 max.                        | 1 max.         | Anti-corrosion                                                             |
|                          | Idecryl-6988         | Cellosolve acetate, Xylene                         | 58.0 - 62.0       | Z1 - Z3                                                       | 75 - 85                                    | 2.3 - 2.8*              | 5 max.                        | 1 max.         | Fast drying                                                                |
| Airdry Alkyd             | Idekyd-1030          | Xylene                                             | 53.0 - 57.0       | 40 - 60 (Poisés)                                              | 90 - 110                                   | 2.7 - 3.3*              | 20 max.                       | 6 max.         | Oil length=28, type of oil=Soybean, fast drying, high gloss                |
| Airdry Epoxy ester       | ALUKIDIR P-6185-50HV | Xylene                                             | 49.0 - 51.0       | T - W                                                         | —                                          | —                       | 6 max.*                       | 4 max.         | Adhesion, flexibility, chemical resistance, anti-corrosion                 |

\* Calculated from solution value

## DTM

| Type                  | Product name    | Solvent                 | Solids content, % | Viscosity, Gardner     | OH value on solids, mgKOH/g | OH content on solids,% | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                                                  |
|-----------------------|-----------------|-------------------------|-------------------|------------------------|-----------------------------|------------------------|-------------------------------|----------------|-------------------------------------------------------------------------------------------|
| Airdry Epoxy ester    | Idepoxyster-60  | Xylene                  | 58.0 - 62.0       | 15 - 35 (Poisés(30°C)) | 120 - 130                   | 3.6 - 3.9              | 5 max.                        | 8 max.         | Anti-corrosion                                                                            |
| 1K Acrylic            | ACRYDIC LA-9501 | Xylene, n-Butanol       | 59.0 - 61.0       | Z3 - Z5                | 91                          | 2.7*                   | 5 - 10*                       | 1 max.         | Adhesion, flexibility, high gloss, chemical resistance                                    |
| 2K Acrylic            | ACRYDIC AU-7500 | Xylene                  | 69.0 - 71.0       | Z5 - Z7                | 55 - 65                     | 1.7 - 2.0              | 5 max.*                       | 1 max.         | Adhesion on steel and galvanized steel (GI), high gloss                                   |
|                       | ACRYDIC AC-3721 | Butyl acetate           | 79.0 - 81.0       | Z2 - Z4                | 75 - 85                     | 2.3 - 2.6*             | 3 max.*                       | 1 max.         | Super high-solids, anti-corrosion                                                         |
|                       | ACRYDIC AC-3723 | Butyl acetate           | 79.0 - 81.0       | Z5 - Z7                | 130 - 140                   | 3.9 - 4.2*             | 8 max.*                       | 1 max.         | Super high-solids, anti-corrosion, high gloss                                             |
|                       | Idecryl-1063D   | Xylene                  | 63.0 - 67.0       | 150 - 200 (Poisés)     | 75 - 85                     | 2.3 - 2.6*             | 12 max.                       | 1 max.         | Adhesion on aluminium and galvanized steel (GI)                                           |
| Thermosetting Acrylic | Idecryl-8062    | Xylene                  | 53.0 - 57.0       | 20 - 30 (Poisés)       | 48 - 50                     | 1.4 - 1.5*             | 5 max.                        | 1 max.         | Fast drying, weather resistance                                                           |
|                       | ACRYDIC AC-101  | Solvesso-100, n-Butanol | 67.0 - 69.0       | (Z5 - Z6) - Z6         | 87*                         | 2.6*                   | 8 - 12*                       | 1 max.         | High-solids, stain resistance, adhesion, weather resistance, metallic pigment orientation |

\* Calculated from solution value

## Aerosol

| Type               | Product name     | Solvent | Solids content, % | Viscosity, Gardner | Acid value on solids, mgKOH/g | Oil length | Type of oil | Color, Gardner | Features                    |
|--------------------|------------------|---------|-------------------|--------------------|-------------------------------|------------|-------------|----------------|-----------------------------|
| Airdry Alkyd       | Idekyd-1325      | Xylene  | 58.0 - 62.0       | 12 - 18 (Poisés)   | 15 max.                       | 18         | Soybean/DCO | 6 max.         | Fast drying, high gloss     |
| Airdry Epoxy ester | Idepoxyster-7475 | Xylene  | 58.0 - 62.0       | Z - Z1             | 18 max.                       | —          | —           | 6 max.         | Fast drying, anti-corrosion |

# Product characteristics for protective coatings

## Heat resistance

| Type                        | Product name        | Solvent                        | Solids content, % | Viscosity, Gardner | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                                       |
|-----------------------------|---------------------|--------------------------------|-------------------|--------------------|-------------------------------|----------------|--------------------------------------------------------------------------------|
| Silicone modified Polyester | Idestersilicon-2849 | Methoxy propyl acetate         | 58.0 - 62.0       | 17 - 22 (Poisés)   | 8 max.                        | 1 max.         | Heat resistance (up to 300°C with properly formulated coating), non- yellowing |
| Silicone modified Epoxy     | Idepoxsilicon-3050  | Methoxy propyl acetate, Xylene | 50.0 - 54.0       | X - Z              | 8 max.                        | 2 max.         | Heat resistance (up to 600°C with properly formulated coating)                 |

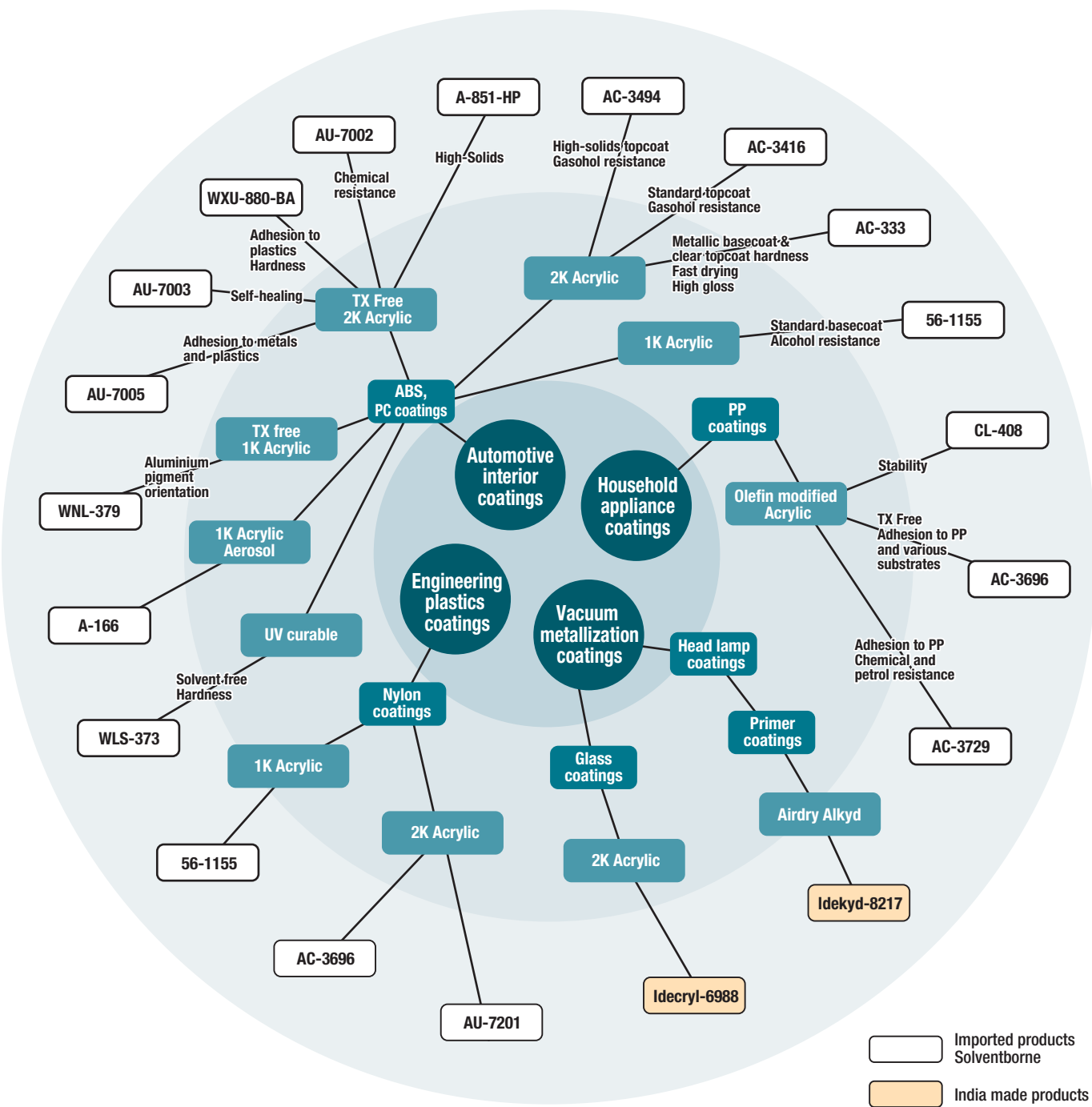
## Maintenance

| Type           | Product name   | Solvent           | Solids content, % | Viscosity, Gardner    | OH value on solids, mgKOH/g | OH content on solids, % | Acid value on solids, mgKOH/g | EEW, on solids, g/eq | Amine value on solids, mgKOH/g | Color, Gardner | Features                                         |
|----------------|----------------|-------------------|-------------------|-----------------------|-----------------------------|-------------------------|-------------------------------|----------------------|--------------------------------|----------------|--------------------------------------------------|
| 2K Epoxy ester | Idepoxyster-75 | Xylene            | 73.0 - 77.0       | 46 - 148 (Poisés)     | 80 - 90                     | 2.4 - 2.7*              | 5 max.                        | 625 - 775            | —                              | 10 max.        | Adhesion on untreated metal surfaces             |
|                | Idemide-200    | Xylene, n-Butanol | 50.0 - 54.0       | 6 - 12 (Poisés, 30°C) | —                           | —                       | —                             | —                    | 180 - 220                      | 10 max.        | Polyamide hardener, no blushing in humid climate |

## Heavy duty & Construction materials (Waterborne)

| Type                     | Product name       | Solvent                                                                                      | Solids content, % | Viscosity, Gardner  | OH value on solids, mgKOH/g     | pH         | Features                                                                                         |
|--------------------------|--------------------|----------------------------------------------------------------------------------------------|-------------------|---------------------|---------------------------------|------------|--------------------------------------------------------------------------------------------------|
| 2K Epoxy                 | EPICLON EM-102-60M | Water                                                                                        | 59.0 - 61.0       | 50 - 2000 (mPa.s)   | 480 - 530 (EEW on solids, g/eq) | —          | Anti-corrosion, pigment dispersibility, VOC free                                                 |
|                          | LUCKAMIDE WN-720   | Water, Propylene glycol monomethyl ether                                                     | 48.0 - 52.0       | Z - Z4              | 177 (AHEW on solids, g/eq)      | —          | Polyamide hardener, anti-corrosion                                                               |
| Organic-Inorganic hybrid | CERANATE WHW-822   | Water, Isopropyl alcohol, Diethylene glycol butyl ether                                      | 34.0 - 36.0       | 10 - 1000 (mPa.s)   | —                               | 7.5 - 8.5  | Weather resistance, stain resistance, adhesion to glass, metals and plastics                     |
|                          | CERANATE WSA-1070  | Water, Isopropyl alcohol, Diethylene glycol butyl ether                                      | 39.0 - 41.0       | 20 - 500 (mPa.s)    | —                               | 7.5 - 8.5  | Weather resistance, stain resistance, adhesion to glass, untreated aluminium and untreated PET   |
| 1K Epoxy                 | EPICLON H-502-42W  | Water, Butyl cellosolve, Isopropyl alcohol                                                   | 37.0 - 41.0       | 500 - 10000 (mPa.s) | —                               | 8.0 - 11.0 | Anti-corrosion, pigment dispersibility, storage stability                                        |
| Airdry Epoxy ester       | WATERSOL EFD-5580  | Water, Propylene glycol butyl ether, Propylene glycol monopropyl ether, Dimethylethanolamine | 39.0 - 41.0       | 50 - 3000 (mPa.s)   | —                               | 8.0 - 9.0  | Anti-corrosion, weather resistance, compatibility and dispersibility with anti-corrosion pigment |

# Product tree for plastic & glass coatings



# Product characteristics for plastic & glass coatings

## Automotive interior & Household appliance coatings - ABS, PC coatings

| Type               | Product name       | Solvent                                                   | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | OH content on solids, % | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                                                                                                                               |
|--------------------|--------------------|-----------------------------------------------------------|-------------------|--------------------|-----------------------------|-------------------------|-------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UV curable         | LUXYDIR WLS-373    | —                                                         | >99.0             | Z3 - Z5            | —                           | —                       | —                             | 1 max.         | Pencil hardness 6H-7H (on glass), high gloss, abrasion resistance, stain resistance, adhesion to plastics such as ABS, PC                                              |
| 1K Acrylic Aerosol | ACRYDIC A-166      | Toluene, n-Butanol                                        | 44.0 - 46.0       | W - Z1             | —                           | —                       | 3 max.*                       | 1 max.         | Adhesion to metals and plastics, aluminium pigment orientation, fast drying                                                                                            |
| 1K Acrylic TX free | ACRYDIC WNL-379    | MIBK, Isobutanol, Ethyl acetate                           | 39.0 - 41.0       | P - W              | —                           | —                       | 1 - 5*                        | 1 max.         | Chemical resistance, appearance on metallic coatings, adhesion to plastics such as ABS, PC and PC/ABS, aromatic solvent free                                           |
| 2K Acrylic TX free | ACRYDIC AU-7005    | Butyl acetate, Propylene glycol methyl ether acetate, MEK | 54.0 - 56.0       | V - Z1             | 59 - 70*                    | 1.8 - 2.1*              | 7 - 13*                       | 1 max.         | Chemical resistance, excellent adhesion to plastics and metal plating, aromatic solvent free                                                                           |
|                    | ACRYDIC AU-7003    | Propylene glycol methyl ether acetate                     | 59.0 - 61.0       | G - L              | 138 - 148*                  | 4.2 - 4.5*              | 5 - 10*                       | 1 max.         | Self-healing, adhesion to plastics                                                                                                                                     |
|                    | ACRYDIC WXU-880-BA | iso-Butyl acetate, MIBK                                   | 49.0 - 51.0       | Z1 - Z5            | 14 - 26*                    | 0.4 - 0.8*              | 2 - 6*                        | 1 max.         | Adhesion to plastics, aluminium pigment orientation, hardness                                                                                                          |
|                    | ACRYDIC AU-7002    | Butyl acetate                                             | 54.0 - 56.0       | Z1 - Z4            | 108 - 126*                  | 3.3 - 3.8*              | 17 - 21*                      | 1 max.         | Chemical resistance, air freshener & DEET resistance, adhesion to plastics, aromatic solvent free                                                                      |
|                    | ACRYDIC A-851-HP   | Butyl acetate                                             | 69.0 - 71.0       | X - Z1             | 94 - 105*                   | 2.8 - 3.2*              | 1 - 7*                        | 1 max.         | High-solids, fast drying, weather resistance                                                                                                                           |
| 2K Acrylic         | ACRYDIC AC-3494    | Toluene, Butyl acetate, Xylene                            | 69.0 - 71.0       | Z3 - Z5            | 97 - 106                    | 2.9 - 3.2               | 7 - 12*                       | 1 max.         | High-solid, chemical resistance, gasohol resistance                                                                                                                    |
|                    | ACRYDIC AC-3416    | Xylene, Butyl acetate                                     | 59.0 - 61.0       | W - Z1             | 115 - 125*                  | 3.5 - 3.8*              | 11 - 17*                      | 1 max.         | Fast drying, hardness, high gloss, adhesion, gasohol resistance                                                                                                        |
|                    | ACRYDIC AC-333     | Toluene, Butyl acetate                                    | 49.0 - 51.0       | W - Y              | 66 - 78                     | 2.0 - 2.4               | 4 - 8*                        | 1 max.         | Leveling, high gloss, adhesion, flexibility, hardness, mar resistance, recoatability, chemical resistance                                                              |
| 1K Acrylic         | ACRYDIC 56-1155    | Toluene, Isobutanol, Butyl acetate                        | 44.0 - 46.0       | Y - Z2             | —                           | —                       | 2 max.                        | 1 max.         | Fast drying, gasoline and alcohol resistance, hardness, adhesion to plastics, compatibility with nitrocellulose (NC), vinyl (especially VAGH) and various plasticizers |

## Automotive interior & household appliance coatings - PP coatings

| Type                    | Product name    | Solvent                              | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | OH content on solids, % | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                        |
|-------------------------|-----------------|--------------------------------------|-------------------|--------------------|-----------------------------|-------------------------|-------------------------------|----------------|-----------------------------------------------------------------|
| Olefin modified Acrylic | ACRYDIC CL-408  | Toluene, Solvesso-100, Butyl acetate | 44.0 - 46.0       | Z2 - Z4            | 29 - 38                     | 0.9 - 1.1               | 5 max.*                       | 2 max.         | Adhesion to plastics especially PP                              |
|                         | ACRYDIC AC-3696 | Butyl acetate                        | 57.0 - 59.0       | Z3 - Z6            | 15 - 25                     | 0.4 - 0.8               | 6 max.*                       | —              | Adhesion to plastics especially PP as 1K or 2K systems, TX free |
|                         | ACRYDIC AC-3729 | Xylene, Butyl acetate                | 51.0 - 53.0       | Z3 - Z6            | 15 - 25                     | 0.4 - 0.8               | 0 - 6                         | —              | Adhesion to PP, chemical and petrol resistance                  |

## Vacuum metallization coatings

| Type         | Product name | Solvent                            | Solids content, % | Viscosity, Gardner | Acid value, mgKOH/g solid resin | Oil length | Type of oil      | Color, Gardner | Features    |
|--------------|--------------|------------------------------------|-------------------|--------------------|---------------------------------|------------|------------------|----------------|-------------|
| Airdry Alkyd | Idekyd-8217  | Xylene, White spirit, Solvesso-100 | 48.0 - 52.0       | W - Y              | 14 max.*                        | 45         | Soybean, Linseed | 6 max.         | Fast drying |

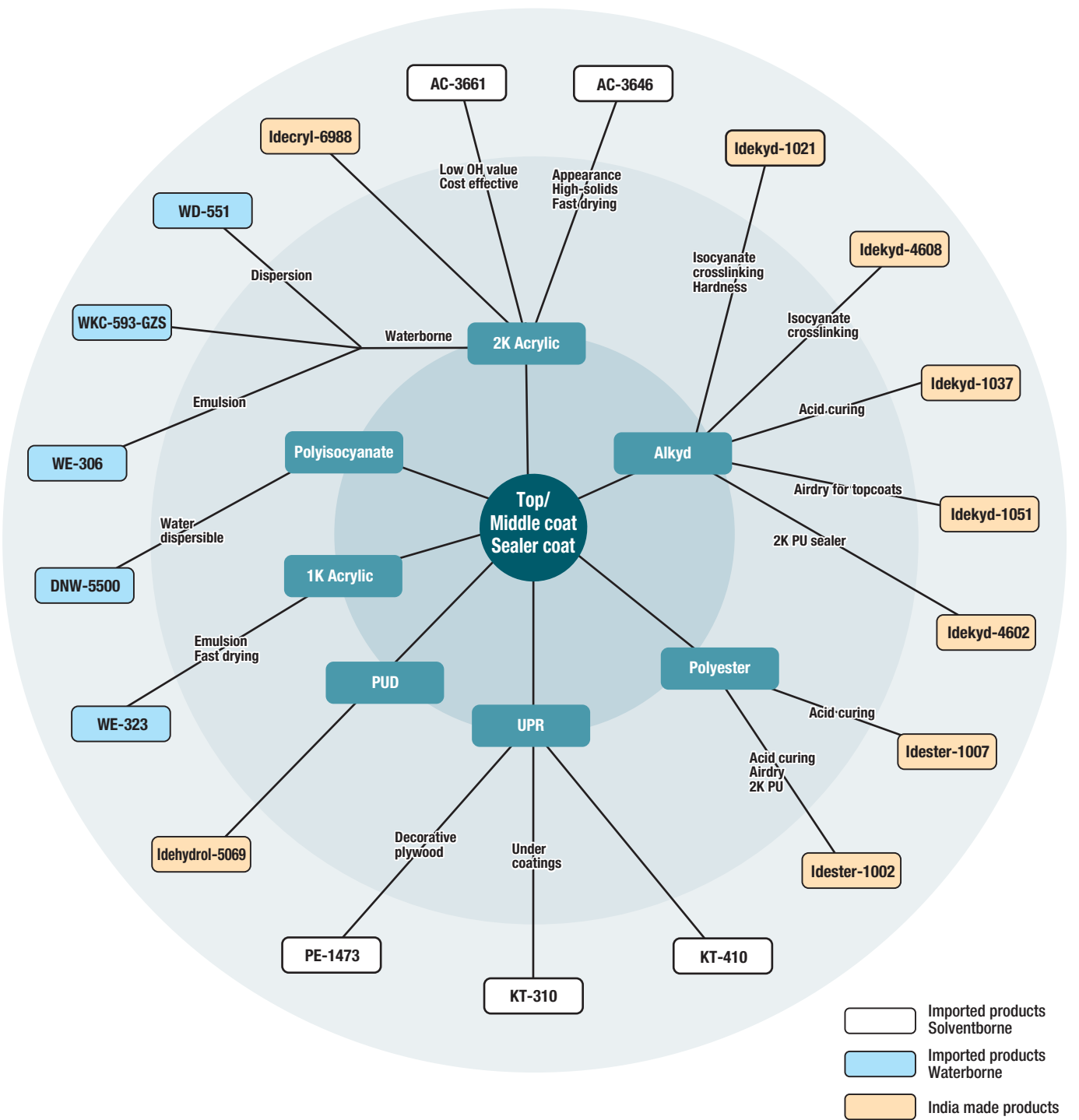
## Glass coatings

| Type       | Product name | Solvent                    | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | OH content on solids, % | Acid value on solids, mgKOH/g | Color, Gardner | Features                                     |
|------------|--------------|----------------------------|-------------------|--------------------|-----------------------------|-------------------------|-------------------------------|----------------|----------------------------------------------|
| 2K Acrylic | Idecryl-6988 | Cellosolve acetate, Xylene | 58.0 - 62.0       | Z1 - Z3            | 75 - 85                     | 2.3 - 2.8*              | 5 max.                        | 1 max.         | Fast drying, adhesion to metals and plastics |

## Engineering plastics coatings

| Type       | Product name    | Solvent                                                                      | Solids content, % | Viscosity, Gardner | OH value on solids, mgKOH/g | OH content on solids, % | Acid value on solids, mgKOH/g | Color, Gardner | Features                                                                                                                                                               |
|------------|-----------------|------------------------------------------------------------------------------|-------------------|--------------------|-----------------------------|-------------------------|-------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2K Acrylic | ACRYDIC AU-7201 | Butyl acetate, Methyl isobutyl ketone, Propylene glycol methyl ether acetate | 49.0 - 51.0       | Q - V              | 26 - 38                     | 0.8 - 1.2*              | 8 max.*                       | 1 max.         | Adhesion to plastics and metals, interlayer adhesion                                                                                                                   |
|            | ACRYDIC AC-3696 | Butyl acetate                                                                | 57.0 - 59.0       | Z3 - Z6            | 15 - 25                     | 0.4 - 0.8*              | 6 max.*                       | —              | Adhesion to plastics especially PP as 1K or 2K systems, TX free                                                                                                        |
| 1K Acrylic | ACRYDIC 56-1155 | Toluene, Isobutanol, Butyl acetate                                           | 44.0 - 46.0       | Y - Z2             | —                           | —                       | 2 max.                        | 1 max.         | Fast drying, gasoline and alcohol resistance, hardness, adhesion to plastics, compatibility with nitrocellulose (NC), vinyl (especially VAGH) and various plasticizers |

Product tree for wood coatings



Product characteristics for wood coatings

Top /Middle coat, Sealer coat

| Type                    | Product name        | Solvent                                 | Solids content, % | Viscosity, Gardner                                                              | OH value on solids, mgKOH/g | OH content on solids, %      | Acid value on solids, mgKOH/g | Color, Gardner | pH        | Features                                                                   |
|-------------------------|---------------------|-----------------------------------------|-------------------|---------------------------------------------------------------------------------|-----------------------------|------------------------------|-------------------------------|----------------|-----------|----------------------------------------------------------------------------|
| PUD                     | Idehydrol-5069      | Water, NMP                              | 35.0 - 37.0       | 20 - 40 (Seconds, 30°C, Ford cup #4)                                            | 35 - 45                     | 1.1 - 1.4*                   | —                             | —              | 7.0 - 8.0 | Hardness, high gloss, anti-corrosion                                       |
| 1K Acrylic              | BURNOCK WE-323      | Water                                   | 44.0 - 46.0       | 100 - 1000 (mPa-s)                                                              | 20                          | 0.6*                         | —                             | —              | 8.0 - 9.5 | Adhesion to ABS, PC and PC/ABS, chemical resistance, hydrolysis resistance |
| Polyisocyanate          | BURNOCK DNW-5500    | Methoxypropyl acetate                   | 79.0 - 81.0       | G - M                                                                           | —                           | 13.0 - 14.0 (%NCO, solution) | —                             | —              | —         | Dispersibility in water and waterborne resins, stability in water          |
| 2K Waterborne Acrylic   | BURNOCK WE-306      | Water                                   | 44.0 - 46.0       | 100 - 1000 (mPa-s)                                                              | 100                         | 3.0*                         | 12                            | —              | 7.0 - 9.0 | High gloss, high OH value                                                  |
|                         | BURNOCK WKC-593-GZS | Water, Diethylene glycol dimethyl ether | 45.0 - 47.0       | 100 - 3000 (mPa-s)                                                              | 35                          | 1.1*                         | 19                            | —              | 7.7 - 8.7 | Fast drying, hydrolysis resistance, chemical resistance, sandability       |
|                         | BURNOCK WD-551      | Diethylene glycol dimethyl ether, Water | 43.0 - 45.0       | 100 - 3000 (mPa-s)                                                              | 100                         | 3.0                          | 19                            | —              | 7.5 - 8.5 | Appearance, pigment dispersability                                         |
| 2K Solventborne Acrylic | Idecryl-6988        | Cellosolve acetate, Xylene              | 58.0 - 62.0       | Z1 - Z3                                                                         | 75 - 85                     | 2.3 - 2.8*                   | 5 max.                        | 1 max.         | —         | Fast drying                                                                |
|                         | ACRYDIC AC-3661     | Xylene                                  | 59.0 - 61.0       | W - Z                                                                           | 53 - 67                     | 1.6 - 2.0                    | 5 max.*                       | 1 max.         | —         | Fast drying, appearance, adhesion                                          |
|                         | ACRYDIC AC-3646     | Butyl acetate                           | 69.0 - 71.0       | Z3 - Z6                                                                         | 90 - 100                    | 2.7 - 3.0                    | 5 max.*                       | 1 max.         | —         | Fast drying, high gloss, adhesion                                          |
| Alkyd                   | Idekyd-1021         | Xylene                                  | 59.0 - 61.0       | Z1 - Z2                                                                         | 119 - 129                   | 3.6 - 3.9*                   | 12 - 16                       | 4 max.         | —         | Oil length=40, type of oil=Castor/Olive, non-yellowing, high gloss         |
|                         | Idekyd-4608         | Xylene                                  | 58.0 - 62.0       | 1500 - 3000 (mPa-s)                                                             | 160 - 170                   | 4.8 - 5.2*                   | 9 max.                        | 5 max.         | —         | Oil length=48, type of oil=Castor, non-yellowing, high gloss, hardness     |
|                         | Idekyd-1037         | Xylene                                  | 68.0 - 72.0       | 80 - 100 (Seconds, 30°C, Ford cup #4, 50% resin solution in Xylene)             | 120 - 140                   | 3.6 - 4.2*                   | 10 max.                       | 6 max.         | —         | Oil length=39, type of oil=Soybean, high gloss                             |
|                         | Idekyd-1051         | Mineral turpentine                      | 58.0 - 62.0       | 50 - 60 (Seconds, 30°C, Ford cup B-4, 50% resin solution in Mineral turpentine) | 25 - 35                     | 0.8 - 1.1                    | 10 max.                       | 6 max.         | —         | Oil length=58, type of oil=Soybean, fast drying, high gloss                |
|                         | Idekyd-4602         | Xylene                                  | 48.0 - 52.0       | V - W                                                                           | 150 - 170                   | 4.5 - 5.2*                   | 25 max.                       | 2 max.         | —         | 2K PU sealer                                                               |
| Polyester               | Idester-1007        | Xylene                                  | 68.0 - 72.0       | 50 - 70 (Seconds, 30°C, Ford cup #4, 50% resin solution in Xylene)              | 120 - 140                   | 3.6 - 4.2*                   | 10 max.                       | 1 max.         | —         | Non-yellowing, high gloss                                                  |
|                         | Idester-1002        | Xylene                                  | 73.0 - 77.0       | 60 - 90 (Poises)                                                                | 150 - 170                   | 4.5 - 5.2*                   | 10 max.                       | 1 max.         | —         | Hardness                                                                   |

\* Calculated from solution value

| Type | Product name     | Viscosity, Gardner | Gel time, minutes. at 25°C | Gel time methods at 25°C*                          | Features                                                            |
|------|------------------|--------------------|----------------------------|----------------------------------------------------|---------------------------------------------------------------------|
| UPR  | SUNDHOMA KT-410  | N - Q              | 20:00 - 30:00              | Resin / 0.6% Co-oct / MEKPO = 50gr / 1.0mL / 1.0gr | Wax type, sandability, fast drying, hardness, for topcoats          |
|      | SUNDHOMA KT-310  | T - V              | 17:00 - 23:00              | Resin / 0.6% Co-oct / MEKPO = 50gr / 1.0gr / 1.0gr | Non-wax type, sandability, fast drying, hardness, for under coating |
|      | SUNDHOMA PE-1473 | 850 - 950 (mPa-s)  | 5:30 - 7:30                | Resin / MEKPO = 50gr / 0.5gr                       | Fast curing, handling, adhesion to decorative plywood               |

Characteristics of solvents

| Classifi-cation | Name                              | Molecular formula                                                                                  | Molecular weight | Boiling point(℃) | S.P  | Specific gravity | Flash point (TCC・℃) | Ignition point (℃) | Explosion limit (VOL %) |
|-----------------|-----------------------------------|----------------------------------------------------------------------------------------------------|------------------|------------------|------|------------------|---------------------|--------------------|-------------------------|
| Hydrocarbons    | Benzene                           | C <sub>6</sub> H <sub>6</sub>                                                                      | 78               | 80.1             | 9.2  | 0.874/25℃        | －11.1               | 562.2              | 1.4～7.1                 |
|                 | Toluene                           | C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub>                                                      | 92               | 110.6            | 8.9  | 0.867/25℃        | 4.4                 | 552                | 1.27～7.0                |
|                 | Xylene                            | C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>                                      | 106              | 136～141          | 8.8  | Approx. 0.87/25℃ | 23～27               | 463～528            | 1.0～7.0                 |
|                 | Solvesso-100                      | —                                                                                                  | —                | 155～181          |      | 0.88/15℃         | Over 41             | Over 450           | 0.8～7.0                 |
|                 | Solvesso-150                      | —                                                                                                  | —                | 178～209          |      | 0.900/15℃        | Over 62             | Over 450           | 0.6～7.0                 |
|                 | SWASOL 1800                       | —                                                                                                  | —                | 206              |      | 0.93/(15/4℃)     | 79                  | 465                |                         |
|                 | ISOPA-E                           | —                                                                                                  | —                | 113～143          |      | 0.72/15℃         | 7                   | 395                | 0.9～6.2                 |
|                 | ISOPA-G                           | —                                                                                                  | —                | 153～178          |      | 0.75/15℃         | Over 40             | 365                | 0.7～5.6                 |
|                 | LAWS (45℃ terpene)                | —                                                                                                  | —                | 160～200          |      | 0.798/15℃        | 46                  |                    | 1.4～7.6                 |
|                 | PEGASOL 3040 (55℃ terpene)        | —                                                                                                  | —                | 150～200          |      | 0.78/15℃         | 40～45               | 230                | 0.6～6.5                 |
| Alcohols        | Methanol                          | CH <sub>3</sub> OH                                                                                 | 32               | 64.5             | 14.7 | 0.791/20℃        | 12                  | 470                | 6.0～36.5                |
|                 | Ethanol                           | C <sub>2</sub> H <sub>5</sub> OH                                                                   | 46               | 78.3             | 12.7 | 0.789/20℃        | 14                  | 390                | 4.3～19.0                |
|                 | Isopropyl alcohol                 | (CH <sub>3</sub> ) <sub>2</sub> CHOH                                                               | 60               | 82.4             | 11.5 | 0.786/20℃        | 11.7                | 460                | 2.02～7.99               |
|                 | n-Butanol                         | C <sub>4</sub> H <sub>9</sub> OH                                                                   | 74               | 117.7            | 11.4 | 0.810/20℃        | 35                  | 340                | 1.45～11.25              |
|                 | Isobutanol                        | (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> OH                                               | 74               | 107.9            | 11.1 | 0.802/20℃        | 27.5                | 434                | 1.68～10.5               |
|                 | Diacetone alcohol                 | (CH <sub>3</sub> ) <sub>2</sub> C(OH)CH <sub>2</sub> COCH <sub>3</sub>                             | 116              | 169.2            |      | 0.938/20℃        | 60                  | 603                | 1.8～6.9                 |
|                 | 3-Methoxy-1-butanol               | CH <sub>3</sub> CH(OCH <sub>3</sub> )CH <sub>2</sub> CH <sub>2</sub> OH                            | 104              | 161              |      | 0.921/20℃        | 64.5                | 239                | 3.6～11.0                |
|                 | 3-Methyl-3-methoxy butanol        | (CH <sub>3</sub> ) <sub>2</sub> C(OCH <sub>3</sub> )CH <sub>2</sub> CH <sub>2</sub> OH             | 118              | 174              | 9.3  | 0.927/20℃        | 68                  | 395                |                         |
| Ketones         | Acetone                           | CH <sub>3</sub> COCH <sub>3</sub>                                                                  | 158              | 56.1             | 10.0 | 0.785/25℃        | 17.8                | 561                | 2.55～7.80               |
|                 | Methyl ethyl ketone               | CH <sub>3</sub> COC <sub>2</sub> H <sub>5</sub>                                                    | 72               | 79.6             | 9.3  | 0.800/25℃        | 7.2                 | 516                | 1.81～8.5                |
|                 | Methyl isobutyl ketone            | (CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> COCH <sub>3</sub>                                | 100              | 115.9            | 8.4  | 0.796/25℃        | 15.6                | 465.5              | 1.35～11.60              |
|                 | Isophorone                        | C <sub>9</sub> H <sub>14</sub> O                                                                   | 138              | 213              |      | 0.92/20℃         |                     | 462                | 0.8～3.8                 |
|                 | Cyclohexanone (anone)             | (CH <sub>2</sub> ) <sub>5</sub> CO                                                                 | 98               | 155.7            | 9.9  | 0.948/20℃        | 44                  | 420                | 1.1～8.1                 |
| Esters          | Ethyl acetate                     | CH <sub>3</sub> COOC <sub>2</sub> H <sub>5</sub>                                                   | 88               | 77.1             | 9.1  | 0.901/20℃        | 4                   | 425                | 2.18～11.4               |
|                 | Butyl acetate                     | CH <sub>3</sub> COOC <sub>4</sub> H <sub>9</sub>                                                   | 116              | 126.1            | 8.5  | 0.881/20℃        | 27                  | 421                | 1.4～8.0                 |
|                 | Isobutyl acetate                  | CH <sub>3</sub> COOCH <sub>2</sub> CH(CH <sub>3</sub> ) <sub>2</sub>                               | 116              | 117.3            | 8.4  | 0.871/20℃        | 21                  | 463                | 1.85～11.0               |
|                 | Ethoxyethyl propionate            | CH <sub>3</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> COOC <sub>2</sub> H <sub>5</sub>  | 146              | 169.7            |      | 0.950/20℃        | 59                  |                    | ～1.05                   |
|                 | 3-Methoxy butyl acetate           | CH <sub>3</sub> COOCH <sub>2</sub> CH <sub>2</sub> CH(OCH <sub>3</sub> )CH <sub>3</sub>            | 146              | 171              |      | 0.950/20℃        | 62.5                | 408                | 2.3～15                  |
|                 | Methoxypropyl acetate             | CH <sub>3</sub> COOC(CH <sub>3</sub> )CH <sub>2</sub> OCH <sub>3</sub>                             | 131              | 146              |      | 0.960/20℃        |                     | 272                | 1.5～10                  |
|                 | Cellosolve acetate                | C <sub>2</sub> H <sub>5</sub> OCH <sub>2</sub> CH <sub>2</sub> OCOCH <sub>3</sub>                  | 132              | 156.3            | 8.7  | 0.973/20℃        | 51                  | 379                | 1.7～8.2                 |
| Ethers          | Cellosolve (ethyl cellosolve)     | C <sub>2</sub> H <sub>5</sub> OCH <sub>2</sub> CH <sub>2</sub> OH                                  | 90               | 135.6            | 9.9  | 0.930/20℃        | 45                  | 238                | 1.8～14.0                |
|                 | Butyl cellosolve                  | C <sub>4</sub> H <sub>9</sub> OCH <sub>2</sub> CH <sub>2</sub> OH                                  | 118              | 170.2            |      | 0.90/20℃         | 61                  | 244                | 1.1～10.6                |
|                 | Isobutyl cellosolve               | CH <sub>3</sub> C(CH <sub>3</sub> ) <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OH               | 118              | 160.5            | 9.3  | 0.903/20℃        | 50                  | 417                |                         |
|                 | Propyl cellosolve                 | C <sub>3</sub> H <sub>7</sub> OCH <sub>2</sub> CH <sub>2</sub> OH                                  | 104              | 149.5            |      | 0.908/20℃        | 49(*1)              | 235                | 1.26～15.8               |
|                 | Isopropyl cellosolve              | (CH <sub>3</sub> ) <sub>2</sub> CHOCH <sub>2</sub> CH <sub>2</sub> OH                              | 104              | 142.8            |      | 0.908/20℃        | 54                  | 320                | 1.7～20                  |
|                 | Propylene glycol monomethyl ether | CH <sub>3</sub> OCH <sub>2</sub> CH(OH)CH <sub>3</sub>                                             | 90               | 120              | 10.4 | 0.920/20℃        | 34.5                | 278                | 3～12                    |
|                 | Propylene glycol monoethyl ether  | C <sub>2</sub> H <sub>5</sub> CH <sub>2</sub> CH(OH)CH <sub>3</sub>                                | 104              | 132              | 7.5  | 0.898/20℃        | 39.5                | 272                | 1.3～12                  |
|                 | Butyl carbitol                    | C <sub>4</sub> H <sub>9</sub> OCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OH | 162              | 230.4            | 8.9  | 0.954/20℃        | 78                  | 227                | 1.1～10.6                |

(Note) Written data are quoted from manufacturer's catalog, MSDS, etc.

(\*1) Seta sealing

Gardner bubble viscosity conversion table

(25℃)

| Gardner viscosity | Poises *                   | Stokes  | Gardner inversion seconds | Iwata cup I.H.S.(Seconds) | Ford cup #4(Seconds) | Zahn cup #2(Seconds) | Zahn cup #4(Seconds) |
|-------------------|----------------------------|---------|---------------------------|---------------------------|----------------------|----------------------|----------------------|
| A5                | 0.00505 × Specific gravity | 0.00505 |                           |                           |                      |                      |                      |
| A4                | 0.0624 ∕                   | 0.0624  |                           |                           | 5.0                  | 16                   |                      |
| A3                | 0.144 ∕                    | 0.144   |                           | 2.5                       | 8.0                  | 17                   |                      |
| A2                | 0.220 ∕                    | 0.220   |                           | 9.0                       | 13.6                 | 19                   |                      |
| A1                | 0.321 ∕                    | 0.321   |                           | 12.0                      | 15.3                 | 20                   |                      |
| A                 | 0.50 ∕                     | 0.50    |                           | 16.0                      | 19.0                 | 22                   |                      |
| B                 | 0.65 ∕                     | 0.65    |                           | 19.5                      | 22.0                 | 27                   |                      |
| C                 | 0.85 ∕                     | 0.85    |                           | 26.0                      | 27.0                 | 34                   |                      |
| D                 | 1.00 ∕                     | 1.00    | 1.46                      | 29.5                      | 30.0                 | 41                   |                      |
| E                 | 1.25 ∕                     | 1.25    | 1.83                      | 37.0                      | 36.0                 | 49                   | 11                   |
| F                 | 1.40 ∕                     | 1.40    | 2.05                      | 42.0                      | 40.0                 | 58                   | 13                   |
| G                 | 1.65 ∕                     | 1.65    | 2.42                      | 49.0                      | 46.0                 | 66                   | 14                   |
| H                 | 2.00 ∕                     | 2.00    | 2.93                      | 54.0                      | 50.0                 | 82                   | 17                   |
| I                 | 2.25 ∕                     | 2.25    | 3.30                      | 60.0                      | 55.0                 |                      | 18                   |
| J                 | 2.50 ∕                     | 2.50    | 3.67                      | 76.0                      | 68.0                 |                      | 20                   |
| K                 | 2.75 ∕                     | 2.75    | 4.03                      | 86.0                      | 74.0                 |                      | 22                   |
| L                 | 3.00 ∕                     | 3.00    | 4.40                      |                           | 81.0                 |                      | 24                   |
| M                 | 3.20 ∕                     | 3.20    | 4.70                      |                           | 86.0                 |                      | 25                   |
| N                 | 3.40 ∕                     | 3.40    | 5.00                      |                           | 91.0                 |                      | 26                   |
| O                 | 3.70 ∕                     | 3.70    | 5.40                      |                           | 99.0                 |                      | 28                   |
| P                 | 4.00 ∕                     | 4.00    | 5.80                      |                           | 107.0                |                      | 30                   |
| Q                 | 4.35 ∕                     | 4.35    | 6.40                      |                           | 116.0                |                      | 33                   |
| R                 | 4.70 ∕                     | 4.70    | 6.90                      |                           | 125.0                |                      | 34                   |
| S                 | 5.00 ∕                     | 5.00    | 7.30                      |                           | 133.0                |                      | 37                   |
| T                 | 5.50 ∕                     | 5.50    | 8.10                      |                           | 146.0                |                      | 40                   |
| U                 | 6.27 ∕                     | 6.27    | 9.20                      |                           | 167.0                |                      | 44                   |
| V                 | 8.84 ∕                     | 8.84    | 13.00                     |                           | 199.0                |                      | 64                   |
| W                 | 10.70 ∕                    | 10.70   | 15.70                     |                           | 270.0                |                      |                      |
| X                 | 12.90 ∕                    | 12.90   | 18.90                     |                           |                      |                      |                      |
| Y                 | 17.60 ∕                    | 17.60   | 26.10                     |                           |                      |                      |                      |
| Z                 | 22.70 ∕                    | 22.70   | 33.30                     |                           |                      |                      |                      |
| Z1                | 27.00 ∕                    | 27.00   | 39.60                     |                           |                      |                      |                      |
| Z2                | 36.20 ∕                    | 36.20   | 52.85                     |                           |                      |                      |                      |
| Z3                | 46.30 ∕                    | 46.30   | 67.9                      |                           |                      |                      |                      |
| Z4                | 63.40 ∕                    | 63.40   | 92.6                      |                           |                      |                      |                      |
| Z5                | 98.50 ∕                    | 98.50   | 143.8                     |                           |                      |                      |                      |
| Z6                | 148.00 ∕                   | 148.00  | 217.1                     |                           |                      |                      |                      |
| Z7                | 388.00 ∕                   | 388.00  | 566.5                     |                           |                      |                      |                      |
| Z8                | 590.00 ∕                   | 590.00  | 865.5                     |                           |                      |                      |                      |
| Z9                | 855.00 ∕                   | 855.00  | 1254.0                    |                           |                      |                      |                      |
| Z10               | 1066.00 ∕                  | 1066.00 | 1563.7                    |                           |                      |                      |                      |

●Viscosity

\* Poises=Stokes x Specific gravity

| Pa·s               | cP                | P                  |
|--------------------|-------------------|--------------------|
| 1                  | 1x10 <sup>3</sup> | 1x10               |
| 1x10 <sup>-3</sup> | 1                 | 1x10 <sup>-2</sup> |
| 1x10 <sup>-1</sup> | 1x10 <sup>2</sup> | 1                  |

(Note:1P=1dyn·s/cm<sup>2</sup>=1g/cm·s, 1Pa·s=1N·s/m<sup>2</sup>, 1cP=1mPa·s)



The product data provided in this document are typical values, intended only as a guide, and should not be interpreted as sales specifications. For more detailed values, check each product TDS.