YOUR SOLUTION FOR SYNTHETIC RESIN

QUALITY, TRUST AND EXCELLENCE

IZEL KIMYA®
SANAYİ ve TİCARET A.Ş.
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Contents **Page**

Our Domestic and Export Sales 2
Our Products 4
Main Usage of Products 5
Water Based Resin Group 6
Solvent Based Resin Group 10
Alkyd Resin 11
Acrylic Resin 26
Polyester Resin Group 30
Epoxy Resin 34
Epoxy Resin Hardeners 36
QC / R & D Laboratory 42
Izel Chemical Stands 44

Who is Izel Chemical industry and trade corporation?

Izel Chemical was established in 1996 to meet the demands of paint and varnish manufacturers by producing alkyd resin which is a type of synthetic resin that is an important raw material used in the paint industry. The production capacity is approximately 75.000 tons of synthetic resin per year and has 10,000 m^2 total company area: 8,500 m^2 closed area and it has 3,000 m^2 storage area. Leading coating firms in world prefer the synthetic resins of Izel Chemical through the products' high performance, fast and safe delivery, close customer relationships, technical service to every customer's needs extensive experiences and tailor-made production as well. Therefore, Izel Chemical has become a reliable and a major name in the alkyd resin market. Today, 70% of the total resin products are exported to the different countries on five continents; Europe, Asia, Australia and Africa. (over 40 countries)

The products that Izel Chemical manufactures are: both of Water & Solvent Based Alkyd Resins, Long, Medium and Short Oil Alkyd Resins, Rapid Alkyd, Urethane and Polyurethane Alkyd, Saturated Polyester Resins, Epoxy Resin and Hardeners, 1K and 2K Acrylic Resins etc.

From the beginning Izel Chemical has been working with market leaders. In this field the need for new high-technological products is always demanded and the industry constantly tries to improve their products and searches for new ones. Izel Chemical with its customer oriented operations, state of art production and research & development technology creates innovative solutions for the unique needs for its customers.

70% Export Ratio 30% Domestic Sales

Izel Chemical in the world
5 continents and over 40 countries
Our Domestic and Export Sales

EUROPE; ALBANIA, BULGARIA, GERMANY, GREECE, HUNGARY, ITALY, MACEDONIA, MALTA, NETHERLANDS, POLAND, PORTUGAL, ROMANIA, SERBIA, SPAIN, UKRAINE, UNITED KINGDOM etc.

AFRICA; EGYPT, ETHIOPIA, MOROCCO, TUNISIA etc.

ASIA; AZERBAIJAN, CHINA, GEORGIA, INDIA, IRAN, IRAQ, ISRAEL, TRNC, MALAYSIA, RUSSIA, SYRIA, UZBEKISTAN, VIETNAM etc.

AMERICA; DOMINICAN REPUBLIC etc.

AUSTRALIA

Production Capacity

REACTOR	Capacity	20 m^3	10 m^3	8 m^3	6 m^3	5 m^3
	Piece	2	2	1	1	1

BLENDER	Capacity	38 m^3	18 m^3
	Piece	4	4

STOCK	Capacity	55 m^3
	Piece	14

OUR PRODUCTS

YOUR SOLUTION FOR SYNTHETIC RESIN

Alkyd Resins, generally can be used for coating industry. They are polymers that are condensation product of oil and fatty acids with polyacid and polyol. It can also be defined as modified polyesters. Alkyd resins' production, film forming conditions and film properties depend on type and the lenght of the oil.

The type of oil and the lenght of oil in alkyd resins are very important for the decision of usage area. The need for a variety types of paint and varnish increased by following the development of technology due to this reason the production of different types resins refer to binders started for manufacturing the varied types of paint and varnish.

WATER BASED RESINS

RESIN TYPE	TRADE NAME	PAGE
ALKYD RESINS	IZELKYD	7
ACRYLIC RESINS	IZELCRYL	8
POLYESTER RESINS	IZELPOL	9

SOLVENT BASED RESINS

ALKYD RESINS		
LONG OIL ALKYD RESIN	IZELKYD LO	11
MEDIUM OIL ALKYD RESIN	IZELKYD MO	14
SHORT OIL ALKYD RESIN	IZELKYD SO	16
RAPID ALKYD	IZELKYD RAP	17
URETHANE ALKYD	IZELKYD URAL	21
POLYURETHANE ALKYD	IZELKYD POL	22
ACRYLIC RESINS		
THERMOPLASTIC ACRYLIC RESIN	IZELCRYL	27
THERMOSETTING ACRYLIC RESIN	IZELCRYL	28
POLYESTER RESINS		
UNSATURATED POLYESTER RESIN STABILIZATOR	POSLEX	30
SATURATED POLYESTER RESIN	IZELPOL	31
EPOXY RESINS		
SOLVENT BORNE EPOXY RESIN	IZELPOX	34
SOLVENT FREE EPOXY RESIN	IZELPOX	35
EPOXY HARDENERS		
EPOXY HARDENERS	CURE	36

Main Usage of Products

The products are supplied by Industrial Coatings division are designed to protect a variety of metal, plastic, substrates etc. Works closely with customers across the globe to develop new, tough coatings and innovative, lean processes that minimize the use of persistent chemicals, energy and natural resources.

The coatings are used to coat buildings and homes. Most are designed for specific uses such as roof coatings, wall paints, or deck finishes. No matter its use, each architectural coating must provide certain decorative, durable, and protective functions.

They can also be applied in other facilities used by vehicles to mark parking spaces or designate areas for other uses.Road surface markings are used on paved roadways to provide guidance and information to drivers and pedestrians. Uniformity of the markings are an important factor in minimizing confusion and uncertainty about their meaning and efforts exist to standardize such markings across borders.

Wood finishing refers to the process of refining or protecting a wooden surface, especially in the production of furniture where typically it represents between 5% and 30% of manufacturing costs. Finishing can also make wood easier to clean and keep it sanitized, sealing pores that can be breeding grounds for bacteria. Finishing can also influence other wood properties, for example tonal qualities of musical instruments and hardness of flooring.

Izel Synthetic Resins Products for Can & Coil Coatings, properties requirements for can and coil coatings are diverse. Chemical resistance and ductility are just two examples. In addition, weather resistance and color stability play a major role. Izel Chemical offers solutions for both waterborne and solventborne systems.

Stoving enamel paints are similar to synthetic enamel except they cure through thermosetting resins on application of heat in an oven at 120-150ºC for 20-40 minutes stoving schedule. The shades are available as per buyer specifications. alkyd butylated amino resins have good flexibility and adhesion, fair gloss and chemical resistance etc.

WATER BASED RESIN GROUP

- **Water Based Alkyd Resin**
- **Water Based Acrylic Resin**
- **Water Based Polyester Resin**

Eco Friendly Products

Water based alkyd resin is end - product of polyester and oil groups reaction in closed polymerization system which is soluable in water. Oil groups in this alkyd polymer gives this product high flexibility and applicability. This resin can be used in the production of wood coatings, decorative coatings, air or oven drying industrial coatings and varnishes. pH value must be kept between 8,2 to 8,6 to get stabilization in application of this product.

Main Usage of Products

Stoving enamels
Industrial coatings
Wood coatings
Road marking & floorings
Can & coil coatings
Architectural coatings etc.

Water Based Alkyd Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELKYD AQ 12 BG 41	IZELKYD AQ 41 BG 75	IZELKYD AQ 33 BG 45
RESIN TYPE	Water Based Alkyd Emulsion	Water Based Alkyd	Water Based Stoving Alkyd
OIL TYPE	Vegetable Oil Fatty Acid	Vegetable Oil Fatty Acid	Vegetable Oil Fatty Acid
OIL CONTENT	12 %	41 %	33 %
SOLVENT	Butyl Glycol	Butyl Cellosolve Acetate / Iso Butanol	Butyl Glycol
pH	8 - 9	8 - 9	6 - 8
%NV (125ºC & 1 hour)	40 ± 2	75 ± 1	45 ± 2
COLOUR *	Characteristic	Max 6	Characteristic
ACID (mgKOH/g)		40 - 50	
VISCOSITY (cP,25 ºC, Brookfield)	1290 - 2700	9850 - 38300	1070 - 2700
GARDNER HOLT (s,25 ºC)	18,9 - 39,6	144,5 - 561,8	15,7 - 39,6
GARDNER HOLT (25 ºC)	X - Z1	Z5 - Z7	W - Z1
DENSITY (gr/cm^3)	1,035 - 1,065	1,00 - 1,04	0,99 - 1,09
GENERAL PURPOSE	• For water based varnish, filler, primer and topcoat paints • Very fast air drying and good adhesion • Good compatibility to pure acrylics • High gloss and yellowing resistance • Suitable for LVOC systems.	• Low carbon foot print, more safety and environmentalist • LVOC even after tinting • Excellent heat stability and high yellowing resistance • Very good hardness • Very fast air drying with suitable driers (19-25 min. soft to touch; 2,5 - 3,5 hours completely dry / 25 ºC and 55% RH) • Excellent hydrolytic stability • Good weathering and gloss retention.	• Suitable for can & coil coating systems etc. • Excellent adhesion and good water resistance • Very good flexibility and termal resistance (< 200ºC)
STOVING ENAMELS			●
INDUSTRIAL COATINGS			●
WOOD COATINGS	●	●	
ROAD MARKING & FLOORINGS	●	●	
CAN & COIL COATINGS			●
ARCHITECTURAL COATINGS	●	●	

*Gardner ASTM D-1544 - Max. 50% Solid

Water Based Acrylic Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELCRYL AQ 12 B 50	IZELCRYL AQ 30 BG 46
RESIN TYPE	Water Based Acrylic Resin	Water Based Acrylic Emulsion
SOLVENT	N-Butanol	Butyl Glycol
pH	7 - 9	8 - 9
%NV	50 ± 2 (1gr resin + 2ml Xylene) / 150°C & 30 minute	46 ± 2 (1gr resin + 2ml Xylene) / 125°C & 1 hour
COLOUR*	Max 2	Characteristic
VISCOSITY (cP,25 °C, Brookfield)	1290 - 1760	1070 - 2270
GARDNER HOLT (s,25 °C)	18,9 - 26,8	15,7 - 33,3
GARDNER HOLT (25 °C)	X - Y	W - Z
DENSITY (gr/cm^3)	0,98 - 1,05	1,04 - 1,07
GENERAL PURPOSE	• For low temperature metal stoving systems • Excellent gloss and color retention • Excellent durability • Chemical and stain resistance • Good adhesion and hardness.	• For water based varnish, filler, primer and topcoat paints for wood and metal surfaces • Very fast air drying, good hardness and good adhesion • High yellowing resistance • Suitable for very LVOC systems.
STOVING ENAMELS	●	
INDUSTRIAL COATINGS	●	●
WOOD COATINGS		●
ROAD MARKING & FLOORINGS		●
CAN & COIL COATINGS		
ARCHITECTURAL COATINGS	●	●

*Gardner ASTM D-1544

Water Based Polyester Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELPOL AQ 40 BG 50
RESIN TYPE	Water Based Saturated Polyester
SOLVENT	Butyl Glycol
pH	6 - 8
%NV	50 ± 2 (1gr resin + 2ml Xylene) / 125°C & 1 hour
COLOUR*	Max 2
VISCOSITY (cP,25 °C, Brookfield)	2270 - 3400
GARDNER HOLT (s,25 °C)	33,3 - 49,86
GARDNER HOLT (25 °C)	Z - Z1 +
DENSITY (gr/cm^3)	1,03 - 1,13
GENERAL PURPOSE	• For water based varnish, filler, primer and topcoat paints for wood and metal surfaces • Very fast air drying, good hardness and good adhesion • High yellowing resistance • Suitable for very LVOC systems.
STOVING ENAMELS	
INDUSTRIAL COATINGS	●
WOOD COATINGS	●
ROAD MARKING & FLOORINGS	
CAN & COIL COATINGS	
ARCHITECTURAL COATINGS	●

*Gardner ASTM D-1544 - Max. 50% Solid

SOLVENT BASED RESIN GROUP

- **Short Oil Alkyd Resin**
- **Medium Oil Alkyd Resin**
- **Long Oil Alkyd Resin**
- **Rapid Alkyd Resin**
- **Urethane Alkyd**
- **Polyurethane Alkyd**

Alkyd resin paints or any other product that contains alkyd resin finds application on a wide range of paint products where they can be used as a decorative material paint, or as maintenance or contractor paints. These paints or coatings provide excellent gloss and durability to the substrate material. In the case of short oil alkyds, these resins are generally oven dried and have a limited solubility only with aromatic and other non-aliphatic solvents. Coating systems manufactured using these resins are used in air drying primers for wood or metal, floor enamels, machinery enamels, traffic paints, industrial paints and low bake finishes etc. It is a high solids synthetic resins for the production of primers, middle coats, wood stains and top coats etc.

Main Usage of Products

Stoving enamels
Industrial coatings
Wood coatings
Road marking & floorings
Can & coil coatings
Architectural coatings etc.

Long Oil Alkyd Resin

TECHNICAL SPECIFICATION

A long oil alkyd is a chemical substance used for material coating and finishing. A long oil alkyd can be applied to architectural, wood, metal, surfaces etc.

PRODUCT NAME	IZELKYD LO 62 W 70	IZELKYD LO 63 W 60	IZELKYD LO 63 W 70
OIL TYPE	Sunflower Fatty Acid	Soybean or Sunflower Oil	Soybean or Sunflower Oil
MODIFICATION	Spesific	Spesific	Spesific
OIL %	62	63	63
SOLVENT	White Spirit	White Spirit	White Spirit
% NV (1gr resin + 2ml Xylene) / 125°C & 1 hour	70 ± 1	60 ± 1	70 ± 1
COLOUR*	Max 5	Max 5	Max 6
ACID [mg KOH/g]	Max 11	Max 11	Max 11
VISCOSITY (cP,25°C,Brookfield)	9850 - 14800	1760 - 2700	9850 - 14800
GARDNER HOLT (s,25°C)	144,5 - 217,1	26,8 - 39,6	144,5 - 217,1
GARDNER HOLT (25°C)	Z5 - Z6	Y - Z1	Z5 - Z6
DENSITY (gr/cm^3)	0,95 - 0,98	0,95 - 0,98	0,96 - 0,99
GENERAL PURPOSE	• Long oil alkyd for in doors and outdoors paints • Excellent yellowing resistance and very high gloss • Good hardness and flexible films.	• Solvent based, long oil and oxidative alkyd resin • Very good yellowing resistance • High colour durability and gloss retention.	• Indoor/outdoor paints • High gloss • Good hardness, flexible film • Very good yellowing resistance.
STOVING ENAMELS			
INDUSTRIAL COATINGS			
WOOD COATINGS	●	●	●
ROAD MARKING & FLOORINGS			
CAN & COIL COATINGS			
ARCHITECTURAL COATINGS	●	●	●

*Gardner ASTM D-1544 - Max. 50% Solid

Long Oil Alkyd Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELKYD LO E 63 W 70	IZELKYD LO 63 W 70 LV	IZELKYD LO 63 W 80
OIL TYPE	Sunflower Fatty Acid	Soybean or Sunflower Oil	Soybean or Sunflower Oil
MODIFICATION	Spesific	Spesific	Specific
OIL %	63	63	63
SOLVENT	White Spirit	White Spirit	White Spirit
% NV (1gr resin + 2ml Xylene) / 125°C & 1 hour	70 ± 1	70 ± 1	80 ± 1
COLOUR*	Max 6	Max 5	Max 5
ACID [mg KOH/g]	Max 11	Max 11	Max 11
VISCOSITY (cP,25°C,Brookfield)	6340 - 14800	1070 - 1760	1290 - 2700 (60% Solid)
GARDNER HOLT (s,25°C)	93 - 217,1	15,7 - 26,8	18,9 - 39,6 (60% Solid)
GARDNER HOLT (25°C)	Z4- Z6	W - Y	X - Z1 (60% Solid)
DENSITY (gr/cm^3)	0,955 - 0,985	0,94 - 0,95	0,98 - 1,00
GENERAL PURPOSE	• Indoor/outdoor paints • High gloss • Good hardness, flexible film • Very good yellowing resistance.	• Low viscosity • General purpose synthetic paint, varnish and liner binders for construction, wood and metal surfaces • High gloss • Very good yellowing resistance.	• Long oil alkyd for VOC systems • General purpose indoor/outdoor paints • High gloss, good hardness, flexible film.
STOVING ENAMELS			
INDUSTRIAL COATINGS			
WOOD COATINGS	●	●	●
ROAD MARKING & FLOORINGS			
CAN & COIL COATINGS			
ARCHITECTURAL COATINGS	●	●	●

*Gardner ASTM D-1544 - Max. 50% Solid

IZELKYD LO 65 W 85 HV	IZELKYD LO 70 W 80	IZELKYD LOT 70 W 80	IZELKYD LO 72 D 85
Sunflower Fatty Acid	Soybean or Sunflower Oil	Tall Oil Fatty Acid	Sunflower Fatty Acid
Spesific	Specific	Specific	Specific
65	70	70	72
White Spirit	White Spirit	White Spirit	Low odour hydrocarbon
85 ± 1	80 ± 1	80 ± 1	84 - 86
Max 5	Max 5	Max 5	Max 6
Max 11	Max 11	Max 11	Max 8
9850 - 14800 (70%)	1760 - 2700	1760 - 2700	7000 - 8000 (20 C°)
144,5 - 217,1 (70%)	26,8 - 39,6	26,8 - 39,6	-
Z5 - Z6 (70%)	Y - Z1	Y - Z1	-
0,97 - 1,00	0,96 - 0,99	0,96 - 0,99	0,98 - 0,99
• High viscosity • Indoor/outdoor paints • High gloss • Good hardness, flexible film • Very good yellowing resistance.	• Long oil alkyd for flat and low VOC systems with TOFA • General purpose indoor /outdoor paints • High gloss, good hardness, flexible film.		• LVOC • Low odour • General purpose indoor / outdoor paints • High gloss, good hardness, flexible film.
●	●		●
	●		
●	●		●

Medium Oil Alkyd Resin

TECHNICAL SPECIFICATION

These resins contain between 40 and 60 percent oil as a modifying agent.

PRODUCT NAME	IZELKYD MO 50 T 60	IZELKYD MO 50 T 65	IZELKYD MO 51 WX 55
OIL TYPE	Soybean or Sunflower Oil	Soybean or Sunflower Oil	Tall Oil Fatty Acid
MODIFICATION	TDI (Toluene di isocyanate)	Spesific	Spesific
OIL %	50	50	51
SOLVENT	Toluene	Toluene	White Spirit / Xylene
% NV (1gr resin + 2ml Xylene) / 125°C & 1 hour	60 ± 1	65 ± 1	55 ± 1
COLOUR*	Max 6	Max 6	Max 5
ACID [mg KOH/g]	Max 11	Max 11	Max 12
VISCOSITY (cP,25°C,Brookfield)	2270 - 3620	2270 - 3620	1760 - 3620
GARDNER HOLT (s,25°C)	33,3 - 53,1	33,3 - 53,1	26,8 - 53,1
GARDNER HOLT (25°C)	Z - Z2	Z - Z2	Y - Z2
DENSITY (gr/cm^3)	0,98 - 1,00	1,07 - 1,10	0.93 - 0.96
GENERAL PURPOSE	• High quality road marking • Excellent hardness and very good resistance to outside effects.	• For border and general industrial paints • Good resistance to outside effects.	• Car repair and industrial paints • High gloss, flexible, good hardness. • Good drying.
STOVING ENAMELS	●	●	●
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS			●
ROAD MARKING & FLOORINGS	●	●	●
CAN & COIL COATINGS			
ARCHITECTURAL COATINGS	●	●	●

*Gardner ASTM D-1544 - Max. 50% Solid

IZELKYD MO 52 W 60	IZELKYD MO 49 X 70	IZELKYD MO 50 X 60	IZELKYD MO 50 X 70
Soybean or Sunflower Oil	Soybean or Sunflower Oil	Soybean or Sunflower Oil	Tall Oil Fatty Acid
Spesific	Spesific	TDI (Toluene di isocyanate)	Spesific
52	49	50	50
White Spirit	Xylene	Xylene	Xylene
60 ± 1	70 ± 1	60 ± 1	70 ± 1
Max 5	Max 6	Max 6	Max 5
Max 5	Max 11	Max 11	Max 11
2270 - 3620	4630 - 9850	2700 - 4630	4630 - 9850
33,3 - 53,1	67,9 - 144,5	39,6 - 67,9	67,9 - 144,5
Z - Z2	Z3 - Z5	Z1 - Z3	Z3 - Z5
0,91 - 0,94	1.04 - 1.07	0,98 - 1,01	1,07 - 1,10
• Producing of high quality air drying industrial paints • High gloss retention and corrosion resistance.	• Hammerton and industrial rapid paints • High gloss, excellent hardness, flexible and very quick driying.	• High quality road marking • Excellent hardness and very good resistance to outside effects.	• Hammerton and industrial rapid paints • High gloss, excellent hardness, flexible and very quick driying.
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●

Short Oil Alkyd Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELKYD SO 35 X 70	IZELKYD SO 40 T 65	IZELKYD SO 40 X 65	IZELKYD SO 42 X 60
OIL TYPE	Coconut Oil Fatty Acid	Soybean Oil	Soybean Oil	Castor Oil
MODIFICATION	Spesific	Spesific	Spesific	Spesific
OIL %	35	40	40	42
SOLVENT TYPE	Xylene	Toluene	Xylene	Xylene
% NV (1gr resin + 2ml Xylene) / 125°C & 1 hour	70 ± 1	65 ± 1	65 ± 1	60 ± 1
COLOUR*	Max 4	Max 6	Max 6	Max 4
ACID [mg KOH/g]	Max 15	Max 11	Max 11	Max 15
VISCOSITY (cP,25°C,Brookfield)	6340 - 14800	2700 - 4630	3620 - 6340	3620 - 6340
GARDNER HOLT (s,25°C)	93 - 217,1	39,6 - 67,9	53,1 - 93	53,1 - 93
GARDNER HOLT (25°C)	Z4 - Z6	Z1 - Z3	Z2 - Z4	Z2 - Z4
DENSITY (gr/cm^3)	1,04 - 1,07	1,02 - 1,05	1,02 - 1,05	1,01 - 1,04
OH VALUE %	3,85	4,45	4,45	3
GENERAL PURPOSE	• High quality, non yellowing • Stoving primers and top coats.	• General purpose stoving enamels and NC coatings • Very good hardness.		• High quality industrial paints, primer and top coat paints • Excellent yellowing resistance • Suitable for stoving enamels • Good sanding • Excellent mechanical properties.
STOVING ENAMELS	●	●		●
INDUSTRIAL COATINGS	●	●		●
WOOD COATINGS				
ROAD MARKING & FLOORINGS	●	●		●
CAN & COIL COATINGS	●	●		●
ARCHITECTURAL COATINGS				

*Gardner ASTM D-1544 - Max. 50% Solid

Rapid Alkyd Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELKYD RAP 27 T 60	IZELKYD RAP 27 X 60	IZELKYD RAP S 29 TX 60
OIL TYPE	Soybean Oil	Soybean Oil	TOFA - Sunflower Fatty Acid
MODIFICATION	Benzoic Acid	Benzoic Acid	Styrene
OIL %	27%	27%	29%
SOLVENT	Toluene	Xylene	Toluene / Xylene
% NV (1gr resin + 2ml Xylene) / 125°C & 1 hour	60 ± 1	60 ± 1	60 ± 1
COLOUR*	Max 6	Max 6	Max 6
ACID [mg KOH/g]	Max 11	Max 11	Max 10
VISCOSITY (cP,25°C,Brookfield)	1760 - 2700	2270 - 3620	1760 - 2700
GARDNER HOLT (s,25°C)	26,8 - 39,6	33,3 - 53,1	26,8- 39,6
GARDNER HOLT (25°C)	Y - Z1	Z - Z2	Y - Z1
DENSITY (gr/cm^3)	1,00 - 1,03	1,00 - 1,03	1,017 - 1,020
GENERAL PURPOSE	• Rapid Alkyd for hammerton and industrial paints • Air drying and very good through hardening film.		• High quality very fast air drying industrial and hammerton paints, with high gloss, good gloss retention • Good elasticity and yellowing resistance.
STOVING ENAMELS			
INDUSTRIAL COATINGS	●		●
WOOD COATINGS	●		●
ROAD MARKING & FLOORINGS	●		●
CAN & COIL COATINGS	●		●
ARCHITECTURAL COATINGS			

*Gardner ASTM D-1544 - Max. 50% Solid

Rapid Alkyd Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELKYD RAP 30 X 70	IZELKYD RAP 31 T 65	IZELKYD RAP A 32 T 65
OIL TYPE	Soybean or Sunflower Oil	Soybean Oil	Sunflower Oil Fatty Acid
MODIFICATION	Benzoic Acid	Benzoic Acid	Benzoic Acid
OIL %	30%	31%	32%
SOLVENT	Xylene	Toluene	Toluene
% NV (1gr resin + 2ml Xylene) / 125°C & 1 hour	70 ± 1	65 ± 1	65 ± 1
COLOUR*	Max 6	Max 5	Max 5
ACID [mg KOH/g]	Max 11	Max 11	Max 15
VISCOSITY (cP,25°C,Brookfield)	6340 - 14800	2700 - 4630	6340 - 14800
GARDNER HOLT (s,25°C)	93 - 217,1	39,6 - 67,9	93 - 217,1
GARDNER HOLT (25°C)	Z4 - Z6	Z1 - Z3	Z4 – Z6
DENSITY (gr/cm^3)	0,995 - 1,045	1,07 - 1,10	1,065 - 1,095
GENERAL PURPOSE	• Producing of high quality air drying industrial paints, primer and top coat paints • High yellowing resistance; permanent colour and gloss • Mixable with medium oil and other short oil alkyds • Form gloss and flexible films.	• Rapid Alkyd for high quality industrial paints and corrosive paints • Very quick air drying and good through hardening film • Excellent gloss film • Good color retention and adhesion to steel.	• Rapid Alkyd for high quality industrial paints and corrosive paints • Very quick air drying and good through hardening film • Excellent gloss film • Good color retention and adhesion to steel.
STOVING ENAMELS			
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS		●	●
ROAD MARKING & FLOORINGS	●	●	●
CAN & COIL COATINGS	●	●	●
ARCHITECTURAL COATINGS			

*Gardner ASTM D-1544 - Max. 50% Solid

IZELKYD RAP 38 T 60	IZELKYD RAP 38 X 60	IZELKYD RAP 38 X 60 HV	IZELKYD RAP F 33 X 60
Soybean Oil	Soybean Oil	Soybean Oil	Sunflower Oil
Benzoic Acid	Benzoic Acid	Benzoic Acid	Phenolic Resin
38%	38%	38%	%33
Toluene	Xylene	Xylene	Xylene
60 ± 1	60 ± 1	60 ± 1	60 ± 1
Max 6	Max 6	Max 6	Max 6
Max 11	Max 11	Max 11	Max 20
2270 - 3620	2700 - 4630	4630 - 6340	3620 - 6340
33,3 - 53,1	39,6 - 67,9	67,9 - 93	53,1 - 93
Z - Z2	Z1 - Z3	Z3 - Z4	Z2 - Z4
1,00 - 1,03	1,00 - 1,03	1,023 - 1,035	1,015 - 1,035
• Rapid Alkyd for hammerton and industrial paints • Very quick air drying and very good through hardening film • Good yellowing resistance. It can be used anticorrosive varnishes.		• Rapid alkyd for hammerton and industrial paints • Very quick air drying and very good through hardening film. • Good yellowing resistance. It can be used anticorrosive varnishes.	• Producing of high quality air drying industrial paints, primer and top coat paints • Excellent adhesion, good corrosion resistance.
			●
●	●	●	●
●	●	●	
●	●	●	●
●	●	●	●
●	●	●	●

Rapid Alkyd Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELKYD RAP S 36 T 65	IZELKYD RAP S 29 X 61	IZELKYD RAP S 45 X 60
OIL TYPE	Soybean Oil	Sunflower Oil Fatty Acid or Tung Oil	Tall Oil Fatty Acid
MODIFICATION	Benzoic Acid	Styrene	Styrene
OIL %	36%	29%	45%
SOLVENT	Toluene	Xylene	Xylene
% NV (1gr resin + 2ml Xylene) / 125°C & 1 hour	65 ± 1	61 ± 1	60 ± 1
COLOUR*	Max 6	Max 5	Max 5
ACID [mg KOH/g]	Max 11	Max 7	Max 11
VISCOSITY (cP,25°C,Brookfield)	3620 - 6340	1290 - 2700	1070 - 1760
GARDNER HOLT (s,25°C)	53 ,1- 93	18,9 - 39,6	15,7 - 26,8
GARDNER HOLT (25°C)	Z2 - Z4	X - Z1	W - Y
DENSITY (gr/cm^3)	1,02 - 1,05	1,02 - 1,05	1,02 - 1,05
GENERAL PURPOSE	• Rapid alkyd for high quality hammerton and industrial paints • Very quick air drying and very good through hardening film.	• High quality air drying industrial and hammerton paints, very quick drying and yellowing resistance • High gloss durability and good hardness.	• Styrene modified alkyd for hammerton and industrial rapid paints • High gloss, excellent hardness, flexible and very quick driying • Good salt spray resistance.
STOVING ENAMELS			
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS	●	●	●
ROAD MARKING & FLOORINGS	●	●	●
CAN & COIL COATINGS	●	●	●
ARCHITECTURAL COATINGS	●		

*Gardner ASTM D-1544 - Max. 50% Solid

Urethane Alkyd

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELKYD URAL 58 WS 60	IZELKYD URAL 63 W 60	IZELKYD URAL 59 W 60
OIL TYPE	Tall Oil Fatty Acid	Soybean and Sun Flower Oil	Soybean Oil
MODIFICATION	TDI - Norselen Resin	TDI	TDI
OIL %	58	63	59
SOLVENT	White Spirit / Solvent Nafta	White Spirit	White Spirit
% NV (125°C & 1 hour)	60 ± 1	60 ± 1	60 ± 1
COLOUR*	Max 6	Max 6	Max 6
ACID [mg KOH/g]	Max 8	Max 4	Max 4
VISCOSITY (cP,25°C,Brookfield)	1290 - 2270	2270 - 3620	2700 - 4630
GARDNER HOLT (s,25°C)	18,9 - 33,3	33,3 - 53,1	39,6 - 67,9
GARDNER HOLT (25°C)	X - Z	Z - Z2	Z1 - Z3
DENSITY (gr/cm^3)	0,91 - 0,94	0,93 - 0,96	0,91 - 0,94
GENERAL PURPOSE	• Private purpose of anticorrosive for marine paints, boat and yacht varnishes, parquet and furniture varnishes, metal surfaces; low acid value binders for reactive and aluminum pigments.		• Special purpose binder suitable for wood varnishes and sealers as well as for marine applications (jacht varnishes and bottop paints) • Good resistance to weather, improved chemical and physical durability .
STOVING ENAMELS	●	●	●
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS		●	
ROAD MARKING & FLOORINGS	●	●	●
CAN & COIL COATINGS			
ARCHITECTURAL COATINGS		●	

*Gardner ASTM D-1544 - Max. 50% Solid

Polyurethane Alkyd

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELKYD POL D 33 TX 50	IZELKYD POL D 33 T 50	IZELKYD POL D 33 X 50
OIL TYPE	Tall Oil Fatty Acid	Tall Oil Fatty Acid	Tall Oil Fatty Acid
MODIFICATION	TDI	TDI	TDI
OIL %	33	33	33
SOLVENT	Toluene / Xylene	Toluene	Xylene
% NV (125°C & 1 hour)	50 ± 1	50 ± 1	50 ± 1
COLOUR*	Max 6	Max 6	Max 6
ACID [mg KOH/g]	Max 15	Max 15	Max 15
VISCOSITY (cP,25°C,Brookfield)	3620 - 6340	2700 - 6200	3620 - 6340
GARDNER HOLT (s,25°C)	53,1 - 93	44,73 - 79,45	53,1 - 93
GARDNER HOLT (25°C)	Z2 - Z4	Z1+ - Z3+	Z2 - Z4
DENSITY (gr/cm^3)	1,02 - 1,05	1,02 - 1,05	1,02 - 1,05
OH VALUE % (On Solid)	4,15	4,15	4,15
GENERAL PURPOSE	• Two component short oil alkyd for filling varnishes • Excellent for the 2K PU wood sanding sealer • Excellent hardness, fast solvent release properties • Excellent resistance to outside factors.		
STOVING ENAMELS			
INDUSTRIAL COATINGS	●	●	
WOOD COATINGS	●	●	●
ROAD MARKING & FLOORINGS	●	●	
CAN & COIL COATINGS	●	●	
ARCHITECTURAL COATINGS			●

*Gardner ASTM D-1544 - Max. 50% Solid

IZELKYD POL P 33 X 60	IZELKYD POL P 34 X 70	IZELKYD POL P 35 X 70
Coconut Fatty Acid	Sunflower Oil Fatty Acid	Coconut Oil Fatty Acid
Specific	Specific	Specific
33	34	35
Xylene	Xylene	Xylene
60 ± 1	70 ± 1	70 ± 1
Max 5	Max 6	Max 4
Max 15	Max 15	Max 15
1760 - 2270	3620 - 6340	6340 - 14800
26,8 - 33,3	53,1 - 93	93 - 217,1
Y - Z	Z2 - Z4	Z4 - Z 6
1,03 - 1,06	1,03 - 1,06	1,04 - 1,07
3,99	3,3	3,85
• Two component short oil alkyd for high quality NC lacquers for furniture very high gloss film • Good resistance to outside factors • Very high yellowing resistance.	• Two component short oil alkyd for high gloss varnishes and paints • Excellent hardness, high gloss film • Good resistance to outside factors.	• Two component short oil alkyd for high quality, non-yellowing paints • Stoving primers and top coats.
●		●
●	●	●
●	●	●
●	●	●
●	●	●

Polyurethane Alkyd

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELKYD POL P 41 X 60 S1L1	IZELKYD POL P 41 X 60 S1L3	IZELKYD POL P 41 X 60 S3L1
OIL TYPE	Soybean Oil and Castor Oil	Soybean Oil and Castor Oil	Soybean Oil and Castor Oil
MODIFICATION	Specific	Specific	Specific
OIL %	41	41	41
SOLVENT	Xylene	Xylene	Xylene
% NV (125°C & 1 hour)	60 ± 1	60 ± 1	60 ± 1
COLOUR*	Max 5	Max 5	Max 5
ACID [mg KOH/g]	Max 15	Max 15	Max 15
VISCOSITY (cP,25°C,Brookfield)	2700 - 4630	2700 - 4630	2700 - 4630
GARDNER HOLT (s,25°C)	39,6 - 67,9	39,6 - 67,9	39,6 - 67,9
GARDNER HOLT (25°C)	Z1 - Z3	Z1 - Z3	Z1 - Z3
DENSITY (gr/cm^3)	1,02 - 1,05	1,02 - 1,05	1,02 - 1,05
OH VALUE % (On Solid)	3,8	3,4	4,1
GENERAL PURPOSE	• Two component short oil alkyd for high quality. • Industrial paints and varnishes. • Good hardness , good color retention for NC lacquers.		
STOVING ENAMELS	●	●	●
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS	●	●	●
ROAD MARKING & FLOORINGS	●	●	●
CAN & COIL COATINGS	●	●	●
ARCHITECTURAL COATINGS			

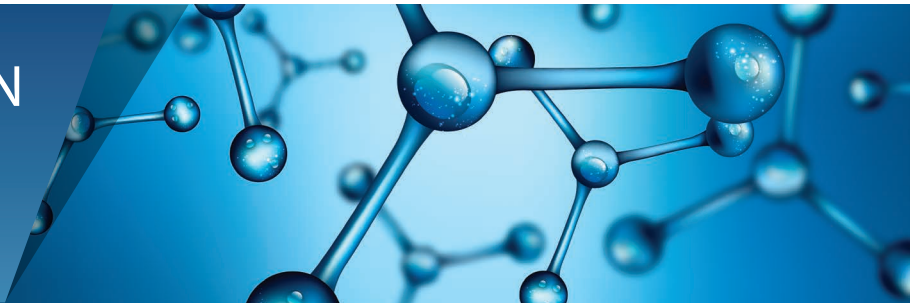
*Gardner ASTM D-1544 - Max. 50% Solid

IZELKYD POL P 41 X 60 C1L1	IZELKYD POL P 41 X 60 C1L3	IZELKYD POL P 41 X 60 C3 L1
Coconut & Castor Oil	Coconut & Castor Oil	Coconut & Castor Oil
Specific	Specific	Specific
41	41	41
Xylene	Xylene	Xylene
60 ± 1	60 ± 1	60 ± 1
Max 4	Max 4	Max 4
Max 15	Max 15	Max 15
2700 - 4630	2700 - 4630	2700 - 4630
39,6 - 67,9	39,6 - 67,9	39,6 - 67,9
Z1 - Z3	Z1 - Z3	Z1 -Z3
1,02 - 1,05	1,03 - 1,05	1,03 - 1,06
3,5	3,2	3,65

• Two component short oil alkyd for high quality • Industrial paints and varnishes • Good hardness, very color retention and yellowing resistance for NC lacquers and oven dry systems.

●	●	●
●	●	●
●	●	●
●	●	●
●	●	●

ACRYLIC RESIN



- Thermoplastic Acrylic Resin
1K ACRYLIC RESIN
- Thermosetting Acrylic Resin
2K ACRYLIC RESIN

$$\frac{\textbf{(17 x NCO \% x weight of isocynate)}}{\textbf{42 x Hydroxyl of solid weight of resin}} = \textbf{1}$$

must be NCO / OH = 1

NCO / OH > 1, hardener and more resistance for chemicals.

NCO / OH < 1, flexible, good adhesion, badly weatherability

Thermoplastic Acrylic Resin 1K ACRYLIC RESIN

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELCRYL 24 T(X) 60	IZELCRYL 28 T(X) 58	IZELCRYL 30 TB 65	IZELCRYL 45 W 55
TYPE	TP Acrylic	TP Acrylic	TP Acrylic	TP Acrylic
MODIFICATION	Specific	Specific	Styrene	Specific
SOLVENT	Toluene (Xylene)	Toluene (Xylene)	Toluene / N.Butanol	Xylene / White Spirit
% NV	60 ± 1 (1gr resin + 2ml Xylene) / 125°C & 1 hour	58 ± 1 (1gr resin + 2ml Xylene) / 150°C & 30 minutes	65 ± 1 (1gr resin + 2ml Xylene) / 125°C & 1 hour	55 ± 1 (1gr resin + 2ml Xylene) / 125°C & 1 hour
COLOUR*	Max 3	Max 2	Max 3	Max 1
ACID [mg KOH/g]	Max 11	Max 17	Max 45	Max 10
VISCOSITY cP, 25°C	6340 - 14800	14800 - 38300	6340 - 14800	7000 - 9000
DENSITY (gr/cm^3)	0,99 - 1,03	0,99 - 1,03	0,97 - 0,99	0,98 - 1,05
GENERAL PURPOSE	• For producing high quality road marking paints • Good adhesion to surfaces such as metals, plastics and glasses • Very fast drying and high resistance to yellowing.	• Economical resin for producing high quality road marking paints • Good adhesion to surfaces such as metals, plastics and glasses • Very fast drying and high resistance to yellowing.	• Thermoplastic acrylic resin for metal and galvanized surfaces • Excellent adhesion to galvanized and aluminium surfaces, also very good adhesion to other metal surfaces • High resistance to yellowing.	• Acrylic resin for metal and wooden surfaces with good solvent release, for fast drying lacquers with highly resisting and hard surfaces, high yellowing resistance and alkaline hydrolysis.
STOVING ENAMELS	●	●	●	●
INDUSTRIAL COATINGS	●	●	●	●
WOOD COATINGS				●
ROAD MARKING & FLOORINGS	●	●	●	●
CAN & COIL COATINGS	●	●	●	
ARCHITECTURAL COATINGS				

*Gardner ASTM D-1544

Thermosetting Acrylic Resin 2K ACRYLIC RESIN

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELCRYL A 160 SN	IZELCRYL 41 X 55	IZELCRYL 65 EC 70
TYPE	TS Acrylic	TS Acrylic	TS Acrylic
% NV	60 ± 1 (1gr resin + 2ml Xylene) / 125°C & 1 hour	55 ± 2 (1gr resin + 2ml Xylene) / 150°C & 30 minute	70 ± 2 (1gr resin + 2ml Xylene) / 150°C & 1 hour
SOLVENT	Solvent Naphta	Xylene	EEP (Ethyl 3-Ethoxypropionate / Cellosolve Acetate
COLOUR*	Max 2	Max 1	Max 1
ACID [mg KOH/g]	Max 6	Max 8	3--8
VISCOSITY cP, 25°C	2300 - 3300 (23°C)	2500 - 3500	4000 - 6000
HYDROXYL CONTENT %	1,6	1,8	3
GENERAL PURPOSE	• Acrylic resin for PU systems with excellent hardness. • High gloss; good light - fastness, chalking resistance and chemical resistance.	• Two component acrylic resin for general using areas especially economic usage is the point in question • It is containing OH groups for requiring low polyisocyanates to achieve high performance in acrylic resin.	• Hydroxy acrylate resin for 2-K systems with higher solid content and good weather resistance, good drying properties, high gloss.
STOVING ENAMELS	●	●	●
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS	●	●	●
ROAD MARKING & FLOORINGS	●	●	●
CAN & COIL COATINGS	●	●	●
ARCHITECTURAL COATINGS			

*Gardner ASTM D-1544 - Max. 50% Solid

IZELCRYL 65 XC 58	IZELCRYL 67 XC 57	IZELCRYL 69 X 51
TS Acrylic	TS Acrylic	TS Acrylic
60 ± 2 (1gr resin + 2ml Xylene) / 150°C & 1 hour	60 ± 2 (1gr resin + 2ml Xylene) / 150°C & 30 minute	50 ± 2 (1gr resin + 2ml Xylene) / 150°C & 1 hour
Xylene / Buthyl Acetate	Xylene / Buthyl Acetate	Xylene
Max 1	Max 1	Max 1
3--8	3--8	Max 10
2000 - 3000	1800 - 3200 (Z3 - Z5)	2400 - 3500
2,8	4,5	1,55
• Hydroxy acrylate resin for fast drying PU lacquers, good UV and chalking resistance; high gloss, application by brush or spray; qualified for heavy corrosion protection.	• Hydroxy acrylate resin for 2K systems with the production of medium solid car repair lacquers, good flow, fast surface and through drying, high gloss, weather resistance.	• Two component acrylic resin for outdoor conditions • High performance on metal and wooden surfaces • Very good weathering properties and flexible film forming.
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●

POLYESTER RESIN GROUPS

- Unsaturated Polyester Resin Stabilizator
- Saturated Polyester Resin

Unsaturated Polyester Resin Stabilizator

TECHNICAL SPECIFICATION

PRODUCT NAME	POSLEX
TYPE	Nano Technological Stabilizator for Unsaturated Polyester Resin
APPERANCE	Stabilizator White Crystal
% NV	Min 99,6
MELTING POINT °C	256 - 259
GENERAL PURPOSE	• This product is an additive for polyester unsaturated. For unsaturated Polyester Resin Shelf Life Extender. Recommended usage is in polyester 0,005 - 0,01%. Unsaturated Polyester Resin to be used in all kinds of applications are used to extend self life.

Saturated Polyester Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELPOL 15 NG 66	IZELPOL 19 N 82	IZELPOL 33 NG 67
% NV	65 - 67 (1gr resin + 2ml MEK) / 150°C & 1 hour	78 - 82 (1gr resin + 2ml Xylene) / 125°C & 1 hour	63 - 67 (1gr resin + 2ml Xylene) / 125°C & 1 hour
COLOUR*	Max 2	Max 3	Max 3
DENSITY (gr/cm^3)	1,085 - 1,115	1,015 - 1,075	1,083 - 1,117
APPEARANCE	Clear	Clear	Clear
VISCOSITY (cPs) (25°C)	900 - 1100	2000 - 4000	750 - 1000
ACID VALUE [mg KOH/g]	Max 6	Max 7	Max 8
OH VALUE 100% [mg KOH/g]	50 - 70	190 - 210	50 - 70
Tg(°C)	-	-	9 - 12
MOLECULAR WEIGHT (Mw)	4000 - 5000	1500 - 3000	4500 - 5500
SOLVENT	Solvent Naphta / Butyl Glycol	Solvent Naphta	Xylene/ Solvent Naphta /Butyl Glycol
GENERAL PURPOSE	• Oil free saturated polyester resin • Fast drying polyester resin for two component can & coil coating, OEM industry refinish car paint • A high strength automotive-grade resin featuring quick curing and unbeatable flexibility • Good weatherability, flexibility, chemical resistance etc.	• Oil free saturated polyester resin • Fast drying polyester resin for two component OEM industry refinish car paint • A high strength automotive-grade resin featuring quick curing and unbeatable flexibility	• Oil free saturated polyester resin for economic primer and top coil coating applications, fast drying, good hardness.
STOVING ENAMELS	●	●	●
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS	●		
ROAD MARKING & FLOORINGS	●	●	
CAN & COIL COATINGS	●	●	●
ARCHITECTURAL COATINGS	●		

*Gardner ASTM D-1544

Saturated Polyester Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELPOL 15 X 72	IZELPOL 18 X 65	IZELPOL 19 XN 76
% NV	68 - 72 (1gr resin + 2ml Xylene) / 125°C & 1 hour	64 - 66 (1gr resin + 2ml Xylene) / 125°C & 1 hour	72 - 76 (1gr resin + 2ml Xylene) / 125°C & 1 hour
COLOUR*	Max 3	Max 3	Max 3
DENSITY (gr/cm^3)	1,00 - 1,04	1,04 - 1,08	1,02 - 1,04
APPEARANCE	Colourless to little hazy	Clear	Colourless to little hazy
VISCOSITY (cPs) (25°C)	1800 - 2500	600 - 1000	2300 - 4300 (23°C)
ACID VALUE [mg KOH/g]	Max 8	Max 23	Max 5
OH VALUE 100% [mg KOH/g]	25 - 40	70 - 85	80 - 120
Tg('C)	17 - 20	6 - 10	(-15) - (-3)
MOLECULAR WEIGHT (Mw)	8200 - 10000	6500 - 8500	5500 - 9000
SOLVENT	Xylene / Metoxy Propanol	Xylene	Xylene / Solvent Naphta
GENERAL PURPOSE	• Oil free, hydroxyl - bearing saturated polyester • Can & coil coating applications for exterior.	• Oil free saturated polyester resin • A high strength automotive - grade resin featuring quick curing and unbeatable flexibility for metallic basecoats in the sector OEM and refinish.	• Oil free saturated polyester resin • Can & coil coating applications.
STOVING ENAMELS	●	●	●
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS			●
ROAD MARKING & FLOORINGS		●	
CAN & COIL COATINGS	●	●	●
ARCHITECTURAL COATINGS			

*Gardner ASTM D-1544

IZELPOL 35 NIB 65	IZELPOL 39 S 65	IZELPOL 42 ND 59	IZELPOL 48 XG 68
64 - 66 (1gr resin + 2ml Xylene) / 125°C & 1 hour	63 - 67 (1gr resin + 2ml Xylene) / 150°C & 30 minute	55 - 59 (1gr resin + 2ml Xylene) / 125°C & 1 hour	64 - 68 (1gr resin + 2ml Xylene) / 150°C & 1 hour
Max 3	Max 2	Max 3	Max 3
1,040 - 1,080	1,015 - 1,085	1,032 - 1,068	1,02 - 1,04
Clear	Clear	Clear	Colourless to little hazy
2200 - 3000 (23°C)	1500 - 2600	2500 - 4500	1500 - 2200
Max 6	Max 10	Max 8	Max 8
80 - 100	45 - 60	15 - 23	30 - 40
8 - 11	3 - 7	35 - 45	13 - 16
2000 - 2500	11.000 - 16.000	10.000 -15.000	6500 - 9000
Solvesso 100 / Isobutanol	Butyl Glcol / Solvent Naphta	Solvesso 150 / Solvesso 100	Xylene / B. Glycol Asetat
• Oil free saturated polyester resin • Branched polyester for primers, automotive surfacers, can & coil coating applications, general industrial coatings with very good weather stability.	• Oil free saturated polyester resin for economical coil coatings • Good resistance to staining from a variety household materials • Good resistance to staining from a variety household materials.	• Oil free, hyroxyl - bearing economical saturated polyester • Can & Coil coating applications for indoor and exterior.	• Oil free, hydroxyl - bearing economical saturated polyester • Can & coil coating applications.
●	●	●	●
●	●	●	●
●	●		
●	●	●	●

EPOXY RESIN

- Solvent Borne Epoxy Resin
- Solvent Free Epoxy Resin

Solvent Borne Epoxy Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELPOX 101 X 75
TYPE	Solvent Borne
SOLVENT	Xylene
% NV	75 ± 1 (1gr resin + 2ml Xylene) / 125°C & 1 hour
VISCOSITY cP, 25°C	8000 - 13000
EE g / eq	475 - 550
DENSITY (gr/cm^3)	1,00 - 1,04
GENERAL PURPOSE	• The product is the modified epoxy resin with excellent corrosion and UV resistance • The resin has excellent flexibility, good adhesion • It provides glossy smooth coating film with proper hardness and remarkable resistance against water and chemical materials.
STOVING ENAMELS	●
INDUSTRIAL COATINGS	●
WOOD COATINGS	●
ROAD MARKING & FLOORINGS	
CAN & COIL COATINGS	●
ARCHITECTURAL COATINGS	●

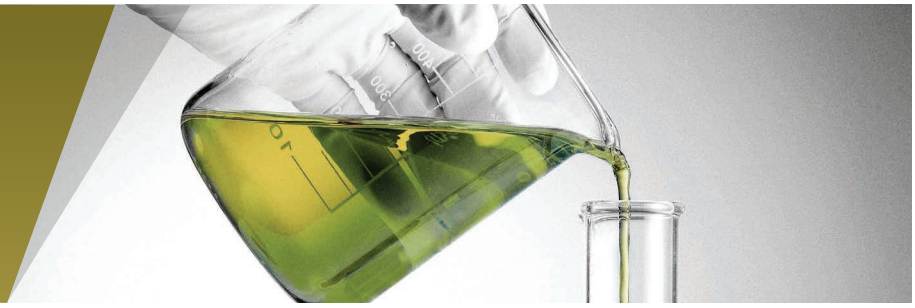
Solvent Free Epoxy Resin

TECHNICAL SPECIFICATION

PRODUCT NAME	IZELPOX 131	IZELPOX 134
TYPE	Solvent Free	Solvent Free
SOLVENT	None	None
COLOUR*	Max 0,5	Max 0,5
VISCOSITY cP, 25°C	11500 - 13500	500 - 700
EE g / eq	184 - 190	180 - 200
DENSITY (gr/cm^3)	1,14 - 1,20	1,14 - 1,20
GENERAL PURPOSE	• High quality and most standard liquid epoxy resin which grants excellent adhesion, chemical resistance, heat resistance etc.	• High quality liquid epoxy resin with very low viscosity which grants excellent adhesion, chemical resistance, heat resistance etc. for high humidity substrades.
STOVING ENAMELS	●	●
INDUSTRIAL COATINGS	●	●
WOOD COATINGS	●	●
ROAD MARKING & FLOORINGS		
CAN & COIL COATINGS	●	●
ARCHITECTURAL COATINGS	●	●

*Gardner ASTM D-1544

EPOXY RESIN HARDENERS



$$\frac{\textbf{AHEW}}{\textbf{EEW x 100}} = \textbf{Content of hardener for 100 g of epoxy resin}$$

AHEW = Amine Hydrogen equavalent weight of hardener
EEW = Equavalent of epoxy resin

Epoxy Resin Hardeners

TECHNICAL SPECIFICATION

If you want to calculate mixing ratio A/B (Resin/Hardener), you must see the page 36

PRODUCT NAME	WorléeCure A 115	WorléeCure A 115 X 70	WorléeCure A 125
TYPE	Polyamide Resin	Polyamide Resin 70% in Xylene	Polyamide Resin
VISCOSITY (mPas)	3600 ± 400 75°C	1500 ± 400 25°C	800 ± 150 75°C
AMINE VALUE [mg KOH/g]	230 - 270	155 - 188	340 - 370
COLOUR*	max 10	max 10	max 8
THEORETCAL AMINE HYDROGEN EQUIVALENT WEIGHT	approx 198 g/mol	approx 223 g/mol	approx 125 g/mol
DENSITY (gr/cm^3)	0,97 ± 0,02	0,94 ± 0,02	0,95 ± 0,98
FLASH POINT C°	> 90 °C	27	>180
POT-LIFE & TOUCH DRYING ** min.	(15-45) & 240	(20-50) & 290 - 330	(10-30) & 120
SHORE Da.7 dr.t.	-	-	-
SOLID	100 % liquid	69 - 71	100 % liquid
GENERAL PURPOSE	A high viscosity, reactive polyamide resin designed for use with solid solvent based epoxy resins for flexible and resistant thermoset coating applications that cure at room temperature.	A reactive polyamide resin designed for use with solid solvent based epoxy resins for flexible and resistant thermoset coating applications that cure at room temperature.	A medium viscosity, reactive polyamide resin based on dimerized fatty acid and polyamines, designed for use with solid epoxy resins for flexible and resistant thermosetting coating applications that cure at room temperature.
STOVING ENAMELS			
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS	●	●	●
ROAD MARKING & FLOORINGS	●	●	●
CAN & COIL COATINGS	●	●	●
ARCHITECTURAL COATINGS	●	●	●

*Gardner ASTM D-1544 ** 25°C (Weather & Substrade) and 55% RH

Epoxy Resin Hardeners

TECHNICAL SPECIFICATION

PRODUCT NAME	WorléeCure A 125 X 90	WorléeCure A 140	WorléeCure AA 450 XB 50
TYPE	Polyamide Resin 90% in Xylene	Polyamide Resin	Polyamidoamine Resin
VISCOSITY (mPas)	450 ± 150 25ºC	300 - 600 75ºC	600 - 2400 75ºC
AMINE VALUE [mg KOH/g]	280 - 320	370 - 410	80 - 110
COLOUR*	Max 9	max 9	max 10
THEORETCAL AMINE HYDROGEN EQUIVALENT WEIGHT	approx 130 g/mol	approx 97 g/mol	approx 785 g/mol
DENSITY (gr/cm^3)	0,97 ± 0,02	0,94 ± 0,98	0,94 ± 0,02
FLASH POINT Cº	24	94	25
POT-LIFE & TOUCH DRYING ** min.	(15-30) & 100 - 120	(15-30) & 100 - 120	(15-30) & 1000
SHORE Da.7 dr.t.	-	-	-
SOLID	89 - 91	100 % liquid	49 - 51
GENERAL PURPOSE	A medium viscosity, reactive polyamide resin based on dimerized fatty acid and polyamines in supplied 86% in solvent xylene, designed for use with solid epoxy resins for high build coatings and where the prime requirement are fast cure and flexibility.	A medium low viscosity, reactive polyamide resin based on dimerized fatty acid and polyamines, designed for use with solid or liquid epoxy resins for tough, chemical resistant thermoset coatings with room temperature cure.	Polyamidoamine adduct, dissolved in xylene/n-butanol
STOVING ENAMELS			
INDUSTRIAL COATINGS	●	●	●
WOOD COATINGS	●	●	●
ROAD MARKING & FLOORINGS	●	●	●
CAN & COIL COATINGS	●	●	●
ARCHITECTURAL COATINGS	●	●	●

*Gardner ASTM D-1544 ** 25ºC (Weather & Substrade) and 55% RH

If you want to calculate mixing ratio A/B (Resin/Hardener), you must see the page 36

WorléeCure AA 460 XB 60	WorléeCure AA 470 XB 70	WorléeCure CA 230	WorléeCure CA 240 ST
Polyamidoamine Resin	Polyamidoamine Resin	Cycloaliphatic Polyamine Resin	Cycloaliphatic Polyamine Resin
800 - 1400 75°C	600 - 1200 75°C	800 - 1400 25°C	280 - 380 25°C
122 - 138	140 - 170	260 - 330	250 - 350
max 10	max 10	max 2	max 2
approx. 520 g/mol	-	approx 109	92 [g/mol]
0,94 ± 0,02	0,94 ± 0,02	1,01 ± 0,02	1,02 ± 0,02
28	33	> 100	-
(15-30) & 1000	-	(15-30) & 25	(15-30) & 100
-	-	87	89
59 - 61	69 - 71		
Polyamidoamine adduct, dissolved in xylene/n-butanol		Modifed cycloaliphatic polyamine adduct free from nonyl phenol. It is used in combination with suitable epoxy resin formulation for solvent-free systems. Main fields of application of this low - viscous hardener are ambient curing self-levelling - floorings, adhesives.	Accelerated modified stabilised cycloaliphatic polyamine free from nonyl phenol. WorléeCure CA 240 ST s preferably used incombination with suited epoxy resins for solvent-free epoxy systems. Main field of application are primers and coatings with good though - curing at temperatures down to +8 °C. Even after short curing periods the respective coatings resist against water.
		●	●
●	●	●	●
●	●		
●	●	●	●
●	●	●	●
●	●	●	●

Epoxy Resin Hardeners

TECHNICAL SPECIFICATION

PRODUCT NAME	WorléeCure CA 249	WorléeCure CA 255	WorléeCure CA 246	WorléeCure CA 250
TYPE	Epoxy Curing Agent Resin	Epoxy Curing Agent Resin	Epoxy Curing Agent Resin	Epoxy Curing Agent Resin
VISCOSITY (mPas)	200 - 350 25ºC	240 ± 60 25ºC	190 ± 50 25ºC	340 ± 60 25ºC
AMINE VALUE [mg KOH/g]	250 - 350	270 - 350	250 - 350	250 - 350
COLOUR*	max 2	max 2	max 2	max 2
THEORETCAL AMINE HYDROGEN EQUIVALENT WEIGHT	Approx 93 [g/mol]	94 [g/mol]	Approx 93 [g/mol]	94 [g/mol]
DENSITY (gr/cm^3)	1,00 ± 1,04	1,01 ± 0,02	1,02 ± 0,02	1,01 ± 0,02
FLASH POINT Cº	> 100	>100	> 100	>100
POT-LIFE & TOUCH DRYING ** min.	30 ± 3 min	26 ± 3 min	34 ± 3 min	40 ± 3 min
SHORE Da.7 dr.t.	85	85	87	85
SOLID				
GENERAL PURPOSE	Modified cycloaliphatic polyamine adduct. It is used as an universal curing agent for casting, solvent-free laminating and coating resin systems as well as for adhesives and highly filled coating materials, mortars and primers.		Modified cycloaliphatic polyamine adduct (nonylphenol - free). It is used as universal curing agent for casting, solvent - free laminating and coating resin systems as well as for adhesives and highly filled coating materials, mortars and primers.	
STOVING ENAMELS	●		●	
INDUSTRIAL COATINGS	●		●	
WOOD COATINGS				
ROAD MARKING & FLOORINGS	●		●	
CAN & COIL COATINGS	●		●	
ARCHITECTURAL COATINGS	●		●	

*Gardner ASTM D-1544 ** 25ºC (Weather & Substrade) and 55% RH

If you want to calculate mixing ratio A/B
(Resin/Hardener), you must see the page 36

WorléeCure CA 240 S	WorléeCure CA 270	WorléeCure CA 270-1	WorléeCure CA 294
Cycloaliphatic Polyamine Resin	Cycloaliphatic Polyamine Resin	Cycloaliphatic Polyamine Resin	Cycloaliphatic Polyamine Resin
300 ± 50 25°C	450 - 650 25°C	300 - 450 25°C	580 - 700 25°C
250 - 350	250 - 350	260 - 320	250 - 350
max 2	max 2	max 2	max 3
94 g/equil	98 [g/mol]	approx 95 [g/mol]	111 [g/mol]
1,02 ± 0,02	1,01 ± 0,02	1,03 ± 0,02	1,03 ± 0,02
> 100	-	> 100	-
(15-30) & 25	18 min	15 min ± 3	28 min
85	84	85	76
-			
Accelerated modified stabilised cycloaliphatic polyamine free from nonyl phenol. This is preferably used in combination with suited epoxy resins for solvent-free epoxy systems.	Modified cycloaliphatic polyamine adduct free from nonyl phenol. It is used in combination with suitable epoxy resin formulation for solvent-free system	Modified cycloalphatic polyamine adduct free from nonyl phenol. It is used in combination with suitable epoxy resin formulation for solvent-free systems. Main fields of applicaton of this low-viscous hardener are ambient curing self - levelling - floor-ings, adhesives, tank- linings etc.	Modifed cycloaliphatc polyamine adduct. It s used in combination with suitable epoxy resin formulation for solvent-free systems. Main fields of application of this low - viscous hardener are ambient curing self-levelling - floorings, adhesives, tank - linings etc.
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●

QC / R&D Laboratories

Processing of Synthetic Resin

Glass Reactor (1-5 lt)

All type of our resins are synthesised in Glass reactor to improve our products and find a better solution for the market. Round bottom, four-neck reaction flasks of 1-5 lt capacity may be used. Each setup is equipped with mechanic stirrer, thermocouple, nitrogen - inlet and a steam - jacketed partial condenser charged with a packing materials., such as Rasching rings. The flask is heated by electrical-heating mantle and the temperature is monitored by process controller.

Pilot Reactor (40 lt)

•Pilot scale quantities of synthetic resins are made in our prototip reactor which has 40 lt capacity.

Inert Gas : The use of an inert gas is high purity nitrogen gas.

Vessel : The vessel is constructed of 316 stainless steel. Heat is applied by electric heaters and also with hot oil.

Agitator : The turbine type agitator is driven by explossion proof motor equipped with a variable-speed drive unit.

Distillation Columns : The unit is equipped with two adjacent, distillation columns of the double-pipe, verticle type. Both distillation columns are steam-heated.

•An inverted U-tube installed above the distillation columns opens downward into the total condenser. The total condenser discharges the condensate into a decanter-receiver.

In our new instrumental analysis laboratory

GC - MS - HS (Gas Chromotograph - Mass Spectrometry - Solid Spectrometry)

- We identify quantitative volatile molecules.
- We can analyse the purity test of all raw materials (We have several sample introduction methods available for different samples types in GC chemical analysis. We may also sample the headspace by Heated Headspace techniques.)
- Our automated samplers in this laboratory provide reproducible injections and permit analysis of samples.
- We use Mas Spectrometry (MS) detectors to identify an analyte by mass.

GPC Gell Permeation Chromatography

- We can measure weight avarage molecular weight of polymers.
- We can measure number avarage molecular weight of polymers.
- We can measure molecular weight distribution of polymers.

Automatic Potentiometric Titrator

- Acid Value Measurement
- OH Value Measurement
- Iodine Number Measurement
- Amine Value Measurement
- Water Content Measurement

Izel Chemical Stands

Quality and Enviromental Security Policy

- To make all employers conscious of quality and enviromental security standarts.
- To establish and to improve management systems.
- To establish customers' pleasure during market research and during post - sale support.
- To establish life protective standart for all customers.
- To follow all enviromental standarts and new rules and;
- To use these rule during developing new products.
- To develop some systems to reduce waste quantity or to use these wastes in production again.
- To improve technology for keeping productivity of reaction to reduce wastes after production.
- To promote new technology for keeping lower using of water, energy and natural sources.

QUALITY
AND
ENVIROMENTAL
SECURITY
POLICY

Viscosity comparision chart (at 25°c)

STANDART POISES	GARDNER HOLT TUBES	SECONDS 4 FORD CUP
0.50	A	20
0.65	B	26
0.85	C	34
1.00	D	40
1.25	E	46
1.40	F	51
1.65	G	57
1.80		60
2.00	H	65
2.25	I	75
2.50	J	85
2.75	K	96
3.00	L	108
3.20	M	117
3.40	N	123
3.70	O	127
4.00	P	131
4.35	Q	137
4.70	R	144
4.80		147
5.00	S	154
5.50	T	166
6.27	U	188

STANDART POISES	GARDNER HOLT TUBES	SECONDS 4 FORD CUP
8.00		215
8.84	V	228
10.70	W	280
12.90	X	348
14.40		
17.60	Y	
22.70	Z	
23.50		
27.00	Z1	
34.00		
36.20	Z2	
46.30	Z3	
62.00		
63.40	Z4	
98.50	Z5	
120.00		
148.00	Z6	
200.00		
383.06	Z7	
590.00	Z8	
855.00	Z9	
1066.00	Z10	
1250.00		

YOUR SOLUTION FOR SYNTHETIC RESIN

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