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INOPOL

Made in KOREA

Alymers[®]



INOMID[™]

The background of the entire page is a close-up, high-resolution photograph of numerous shattered glass fragments. The shards are of various sizes and shapes, some sharp and jagged, others more rounded. They are scattered across a light-colored, possibly white or light grey, surface. The lighting creates highlights and shadows on the edges of the glass, giving it a three-dimensional appearance.

**Passion
Challenge
Innovation**

**EcoVadis
PLATINUM**

Rating in Corporate
Social Responsibility

INOPOL

The INOPOL Way

Our Strengths

- On time delivery
- Procurement Excellence
- Quality control
- Custom-made service
- Fast communication
- Proactive investment in R&D

Our Philosophy

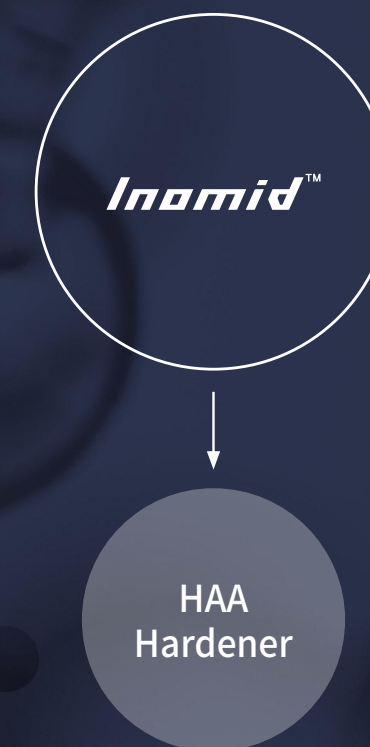
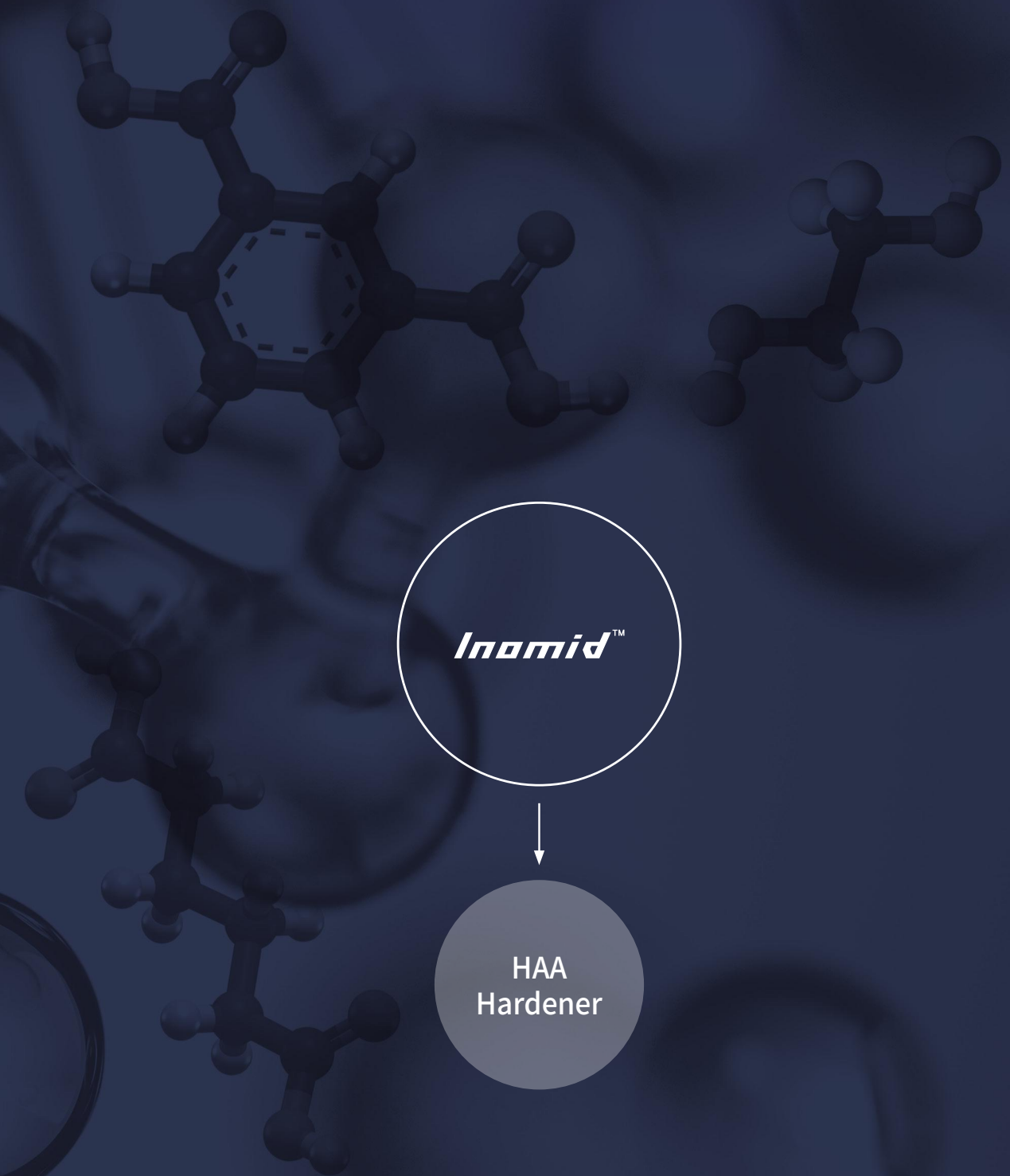
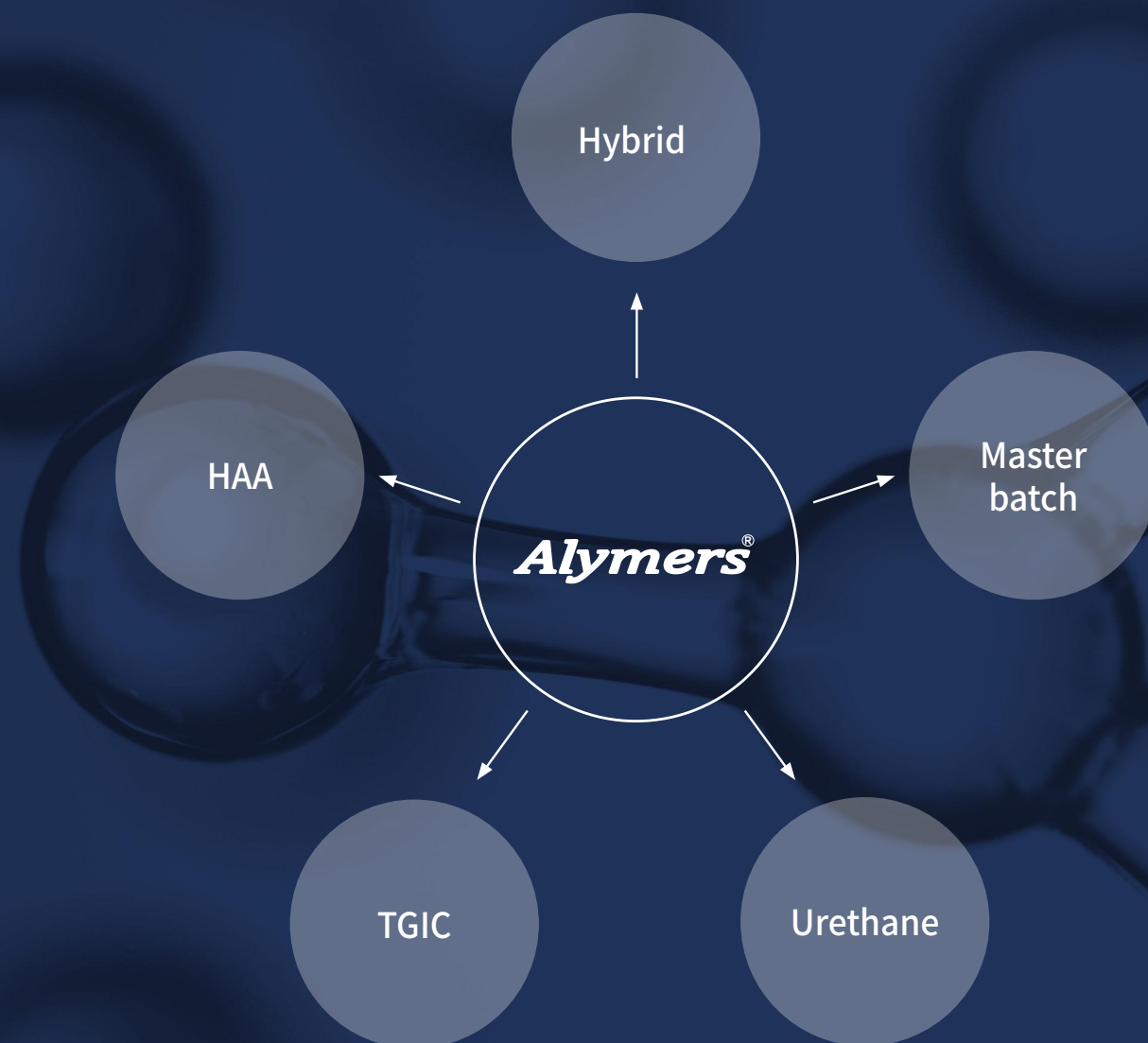
- We create dynamic company culture to meet customer satisfaction
- We build long-term relationships with customers to grow
- We protect the environment and improve the community.

Alymers[®]

100% solid polyester resins in pale granule status made from the polymerization of acids and glycols being used as the major raw materials for powder coatings

Inomid[™]

A Hydroxyalkylamide crosslinker for the formulation of durable outdoor powder coatings



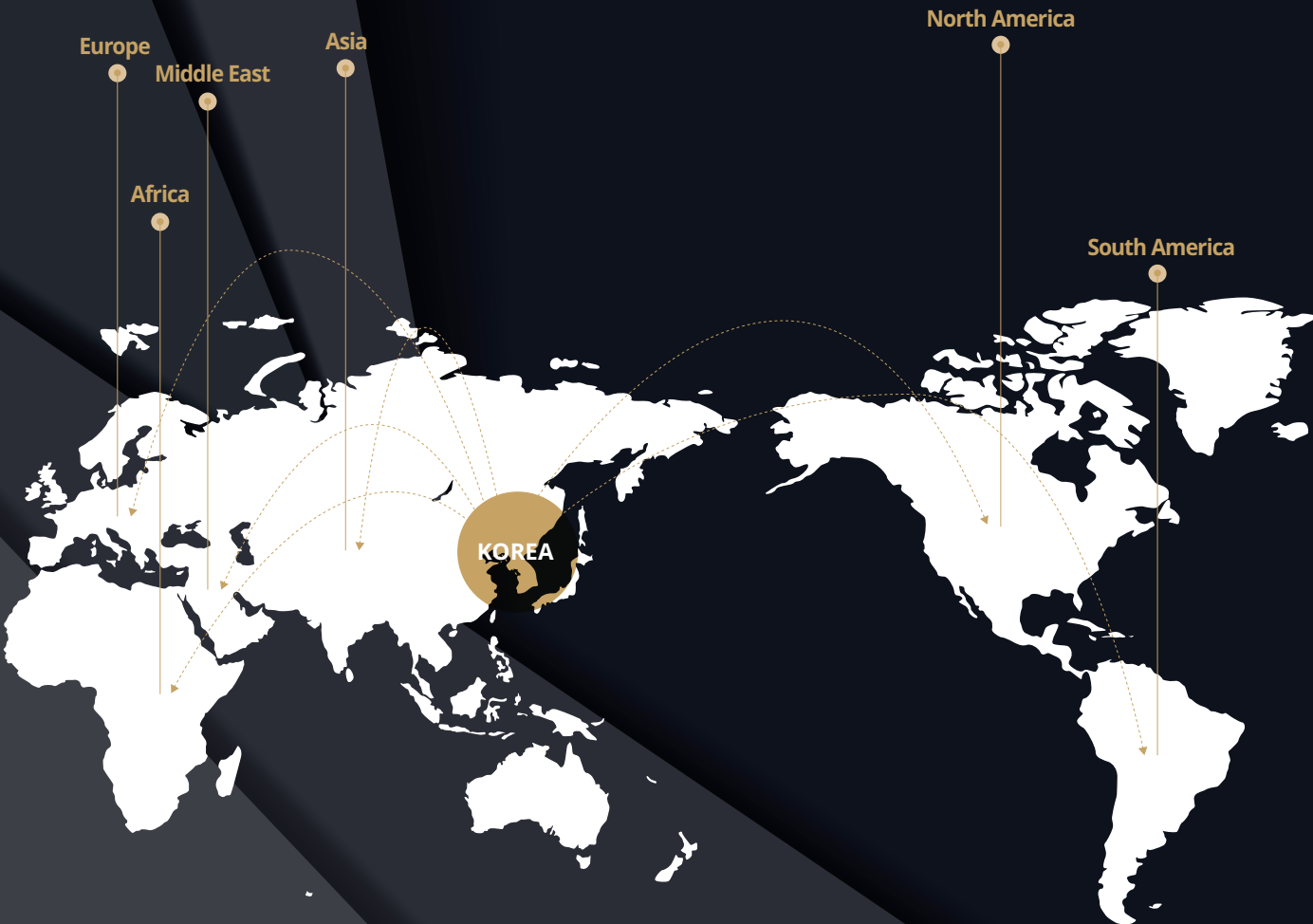
Global Support

INOPOL HAS BEEN GROWING WITH CUSTOMERS

INOPOL is a global supplier of the highest quality polyester resins dedicated to the use of powder coatings. We offer a wide range of products to help our valued customers enhance their productivity, quality, and performance satisfying various needs and environmental responsibility.

We have been growing rapidly, being the leading powder coating resin supplier in Korea today, together with our clients based on the solid partnership since 2012 by providing customized solutions and services to each and every business partner thereby we move forward developing new opportunities for the powder coating industry.

We continue to strive for the highest level of customer satisfaction with a commitment to collective sustainability in consistent resin quality and technological development. Our product developments and improvements are focused on fulfilling evolving needs and requirements across the globe.



Sustainability Rating



Our rating in Corporate Social Responsibility from EcoVadis



- 1 ISO 9001 - Quality Management System Certificate
- 2 ISO 14001 - Environmental Management System Certificate
- 3 ISO 45001 - Occupational Health and Safety Management System Certificate

Product Portfolio

Hybrid

	50/50 AV ~ 90	55/45 AV~65	60/40 AV~63	70/30 AV~40	75/25 AV~30	80/20 AV~24
200°C	HC5004		HC6001	HC7002	HC7007	
			HC6011	HC7006		
				HC7010		
180°C	HC5801	HC5802	HC6803	HC7802		HC8820
	HC5811	HC6841	HC6805	HC7803		
	HC5823		HC6805T	HC7804		
	HC5804		HC6809	HC7805		
			HC6819	HC7807		
			HC6823	HC7810		
				HC7812		
				HC7813		
				HC7815		
				HC7816		
				HC7819		
				HC7823		
170°C	HC5601		HC6604			
			HC6712			
160°C	HC5604		HC6611	HC7605		
150°C	HC5501					
140°C	HC5401					
	HC5402					

HAA

	97/3 AV~26	96.5/3.5 AV~29	96/4 AV~30	95/5 AV~39	93/7 AV~55	92/8 AV~65	90/10 AV~75
200°C	● PC1001			PC2013			
190°C				PC2010			
				PC2801			
				PC2802			
				PC2803			
180°C	● PC1801	● PC1802	PC1809	PC2804	● PC8801		● PC8803
	● PC1803	PC1807	PC1814	PC2807	● PC8802		● PC8804
	● PC1818	PC1822	PC1815	PC2808	● PC8807		● PC8809
	● PC1836		PC1819	PC2812			
				PC2813			
				PC2816			
				PC2820			
				PC2834			
160°C				PC2871			
				PC2871T			
				PC2872			
		PC1601		PC2604			
				PC2605			
155°C				PC2608			
					● PC8504	● PC8502	
					● PC8501		

TGIC

	93/7 AV ~40	96/4 AV ~25	90/10 AV ~55
200°C	TC3003	TC4004	TC8001
	TC3004	TC4001	TC8010
	TC3005		
	TC3006		
	TC3007		
	TC3008		
	TC3009		
	TC3011		
	TC3012		
	TC3013		
	TC3014		
	TC3015		
	TC3016		
	TC3017		
	TC3018		
180°C	TC3021		
	TC3022		
	TC3025		
	TC3028		
	TC3031		
	TC3802		TC8801
	TC3804		
	TC3805		
	TC3824		
	TC3601		
160°C	TC3604		
	TC3605		
	TC3606		
	TC3607		
150°C	TC3609		
150°C	TC3501		
140°C	TC3401		

Urethane

	40/60	65/35	67/33	80/20	87/13
200°C	UC9021	UC9012	UC9004	UC9006	UC9007
		UC9014		UC9009	UC9008
				UC9019	UC9015
					UC9016
					UC9017
					UC9018
					UC9020

Masterbatch

Catalyst	TC002
Tribo additive	AC3002
Flow aid	AC3005

INOMID HAA Hardener

Hardener (Hydroxyalkylamide crosslinker)	AH 001
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● For matting Systems

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Alymers®

Resin Categories

Hybrid	Carboxyl terminated polyester resins designed for use with epoxy crosslinker
HAA	Carboxyl terminated polyester resins designed for use with hydroxy alkyl amide
TGIC	Carboxyl terminated polyester resins designed for use with triglycidyl isocyanurate
Urethane	Hydroxyl terminated polyester resins designed for use with externally blocked isocyanates or uretdiones
Masterbatch	A mixture containing a high concentration of a specific additive dispersed in a polyester matrix

Hybrid

For Epoxy Cured Powder Coatings

Curing temperature		High ←————→ Low					
Ratio		Alymers					
80/20		HC8820					
75/25	HC7007						
70/30	HC7002	HC7802		HC7605			
		HC7803					
		HC7804					
		HC7805					
	HC7006	HC7807					
	HC7010	HC7810					
		HC7812					
		HC7813					
		HC7815					
		HC7816					
		HC7819					
		HC7823					
		HC7825					
	60/40	HC6001	HC6803	HC6604	HC6611		
HC6011		HC6805	HC6712				
		HC6805T					
		HC6809					
		HC6819					
		HC6823					
55/45		HC6841					
50/50	HC5004	HC5802	HC5801	HC5601	HC5604	HC5501	HC5401
		HC5804	HC5811	HC5402			
		HC5823					

○ good ◐ very good ● excellent

Item code (Alymers)	Ratio (PE/EP)	Cure schedule 10min x object T(°C)	Acid Value	Viscosity (Poise, at 200°C)	approx. Tg (°C)	Flow	Resistance to			
							Overbake	Gas oven	Impact	MEK rub
HC5401	50/50	140	57-67	15-35	56				◐	○
HC5402	50/50	140	65-75	10-30	60	○	◐			○
HC5501	50/50	150	65-75	45-65	60				○	○
HC5604	50/50	160	65-75	15-29	55	○			●	○
HC5601	50/50	170	65-75	65-105 @175°C	57	○	○		○	○
HC5801	50/50	180	67-77	65-105 @175°C	58	○	◐		●	○
HC5811	50/50	180	68-78	20-40	55	○	●		●	○
HC5823	50/50	180	55-65	20-40	60	○	○		●	
HC5802	50/50	180	55-65	80-120 @175°C	59	◐	●			○
HC5804	50/50	180	69-75	25-35	58		◐		●	○
HC5004	50/50	200	80-90	25-39	65	○			●	○
HC6841	55/45	180	55-65	20-30	60	◐	○		○	○
HC6604	60/40	170	43-53	17-27	58	○				
HC6611	60/40	160	48-56	20-40	55	○				○
HC6712	60/40	170	53-63	20-40	58	○				○
HC6803	60/40	180	45-55	30-50	58	○			●	
HC6805	60/40	180	47-55	30-50	57	○		○	◐	
HC6805T	60/40	180	48-56	30-50	61	○		○	◐	
HC6809	60/40	180	45-55	10-20	53	○			○	
HC6819	60/40	180	42-48	33-47	60	○	◐		●	
HC6823	60/40	180	45-55	30-47	57	○	◐		●	
HC6011	60/40	200	47-53	28-48	59	○			●	○
HC6001	60/40	200	48-56	28-48	57	◐		○		○
HC7605	70/30	160	27-33	45-65	57	○	○		◐	
HC7802	70/30	180	30-40	30-40	59	○			○	
HC7803	70/30	180	27-33	45-75	60	○			◐	
HC7804	70/30	180	30-36	45-65	60	○	◐		●	
HC7805	70/30	180	28-34	60-90	61	○	●		●	
HC7807	70/30	180	28-34	40-60	60	○	◐		●	
HC7810	70/30	180	27-35	35-55	57	○	◐		○	
HC7812	70/30	180	27-33	30-60	58	○	◐		●	
HC7813	70/30	180	28-34	40-60	57	○	●		●	○
HC7815	70/30	180	30-36	40-60	57	○	◐		●	
HC7816	70/30	180	30-38	50-70	63	○	○		●	
HC7819	70/30	180	27-33	45-65	60	○	◐	○	●	
HC7823	70/30	180	28-34	35-65	56	○			◐	
HC7825	70/30	180	27-33	30-60	58	○	◐		●	
HC7002	70/30	200	27-35	35-65	58	◐			○	
HC7006	70/30	200	31-37	30-50	57	○		○	◐	
HC7010	70/30	200	30-36	50-70	59	○	○			
HC7007	75/25	200	24-30	75-95	60	●		○		
HC8820	80/20	180	16-24	80-100	57				◐	

HAA

For HAA Cured Powder Coatings

Curing temperature		High ← → Low			
Grade		Alymers			
General industrial			PC1802	PC1601	
			PC1803	PC2604	
			PC1807	PC2605	
			PC1814		
			PC1822		
			PC2802		
			PC2812		
			PC2816		
			PC2820		
			PC2829		
			PC8802		
			PC8804		
Architectural			PC1801	PC1809	PC2608
			PC1815	PC1819	
			PC1836	PC2801	
			PC2803	PC2804	
			PC2808	PC2813	
			PC2871	PC2871T	
			PC2872	PC8801	
			PC8803	PC8807	
Super Durable	PC1001	PC2010	PC1818	PC2619	PC8502
	PC2013		PC2807		PC8504
			PC2834		PC8501

● For matting Systems

○ good ● very good ● excellent

Item code (Alymers)	Ratio (PE/HAA)	Cure schedule 10min x object T(°C)	Acid Value	Viscosity (Poise, at 200°C)	approx. Tg (°C)	Flow	Degassing	Resistance to				Dry- blend	
								Overbake	Gas oven	Impact	MEK rub		Blooming
General Industrial													
PC1601	96.5/3.5	160(15min)	23-29	110-140	64		●	○	○		○		
PC1802	96.5/3.5	180	20~28	38-52	56	○	●	○	○		○		●
PC1807	96.5/3.5	180	20~28	50-70	60	○	●	○			○		
PC1822	96.5/3.5	180	20~28	45-65	61	○	●	●		●			
PC1814	96/4	180	22-28	40-60	58		●	○		○	○		
PC1803	97/3	180	18~24	60-90	58	○	●	○	○	○			●
PC2604	95/5	160	30-36	35-55	60	○	●	●	●	●	○	●	
PC2605	95/5	160	30-36	35-55	58	○	○	●	●	●	○	●	
PC2802	95/5	180	29-35	25-35	62		○	●	○	●		●	
PC2812	95/5	180	32-38	25-35	58	○	○	●	●	●	●		
PC2816	95/5	180	31-37	22-42	57	○	○	○		●			
PC2820	95/5	180	29-35	28-42	60		○	○	●	●	●		
PC2829	95/5	180	30-38	35-55	67		○		○	●	○		
PC8802	93/7	180	45-55	35-55	68				○	●	●	○	●
PC8804	90/10	180	65-75	15-25	60				○	●	●		●
Architectural													
PC1801	97/3	180	17-23	60-90	60	○	●	●	○				●
PC1809	96/4	180	23-27	85-125	68		●	○	○	●		○	
PC1815	96/4	180	23-28	30-50	58	○	○	●		●	○	●	
PC1819	96 / 4	180	22-28	38-58	57		○	●		●	○	●	
PC1836	97/3	180	18-24	55-75	60	○		●	○	●	●		●
PC2608	95/5	160	29-35	55-75	59		○		○		○		
PC2801	95/5	180	30-36	28-38	58	○	○	●	○	●	●		
PC2803	95/5	180	27-33	28-42	56	○	○	●	●	●	○	●	
PC2804	95/5	180(15)	27-33	25-45	58	○	●	●	●	●	●		
PC2808	95/5	180	32-38	25-45	60	○	○	○	○	●	●		
PC2813	95/5	180	32-38	14-30	55	○	○	●	○	●	●		
PC2871	95/5	180	32-38	25-35	58	○	○	○	○	●	○	●	
PC2871T	95/5	180	32-38	25-45	61	○	○	○	○	●	○	●	
PC2872	95/5	180	32-38	28-42	58	○	○	○	●	●	●	●	
PC8809	90/10	180	65-75	25-45	58			●	●	●	●	●	
PC8801	93/7	180	45-53	50-70	60	○		○	○	●	○		●
PC8807	93/7	180	47-53	37-57	57			●		●	○	●	●
PC8803	90/10	180	65-75	20-40	56				○	●	○	●	●
Super Durable													
PC1001	97/ 3	200	17-23	30-50	62	●	○	●	●			●	●
PC1818	97/ 3	180	17-23	20-30	57	●	●	○	●			●	●
PC2010	95/ 5	190	28-34	28-42	62	○			●		○	●	
PC2013	95/ 5	200	30-36	15-25	64	○	○		○		○	●	
PC2619	95/ 5	160	32-38	30-50	65	○	○	●	○		○	●	
PC2807	95/ 5	180	29-35	35-55	57			●	●		○	●	
PC2834	95/ 5	180	32-38	15-25	61	○	○	○	●		○	●	
PC8504	92/ 8	155	49-55	40-60	66				●		○	●	●
PC8501	92/ 8	155	43-49	45-65	67			●	○		○	●	●
PC8502	90/ 10	155	65-75	50-70	64				●		●		●

TGIC

For TGIC Cured Powder Coatings

Curing temperature		High ← → Low			
Grade		Alymers			
General industrial	TC3016	TC3802	TC3601	TC3501	TC3401
	TC4004		TC3606		
	TC4001				
	TC8010				
Architectural	TC3003	TC3804	TC3604		
	TC3004	TC3805	TC3609		
	TC3008	TC3824			
	TC3009				
	TC3011				
	TC3012				
	TC3013				
	TC3014				
	TC3021				
	TC3022				
	TC3031				
Super Durable	TC3005	TC8801	TC3605		
	TC3006		TC3607		
	TC3007				
	TC3015				
	TC3017				
	TC3018				
	TC3025				
	TC3028				
	TC8001				

● For matting Systems

○ good ● very good ● excellent

Item code (Alymers)	Ratio (PE/TGIC)	Cure schedule 10min x object T(°C)	Acid Value	Viscosity (Poise, at 200°C)	approx. Tg(°C)	Flow	Resistance to				
							Overbake	Gas oven	Impact	MEKrub	Blooming
General Industrial											
TC3401	93/7	140	29-35	30-50	62			●			●
TC3501	93/7	150	29-35	24-38	52	-	●	●	●	-	○
TC3601	93/7	160	30-36	28-42	60		○		●	○	
TC3606	93/7	160	30-36	33-47	63		○	●	●	○	
TC3802	93/7	180	30-36	35-65	67		●	○	●		
TC3016	93/7	200	28-36	40-60	65	○	●	●	●		
TC4001	96/4	200	21-27	40-60	57	○	●	●	●	○	●
TC4004	96/4	200	17-25	85-115	68	○	●	○	○		
TC8010	90/10	200	45-55	50-80	70		●	●	●	●	
Architectural											
TC3604	93/7	160	28-34	15-35	57		●	●			●
TC3609	93/7	160	32-38	40-70	63		●	○			●
TC3804	93/7	180	29-35	40-60	64	○	●	●	●	○	
TC3805	93/7	180(15)	33-39	30-50	63	○	●	○	●	○	
TC3824	93/7	180	32-38	65-85	70		●	●	○	●	
TC3003	93/7	200	30-38	35-55	68		●	●	●	●	
TC3004	93/7	200	30-36	40-55	67	○	●	●	●	○	
TC3008	93/7	200	30-36	40-60	67	○	●	●	●	●	
TC3009	93/7	200	30-38	35-55	64	○	●	●	●	○	
TC3011	93/7	200	28-36	35-55	62	○	●	○	●	○	●
TC3012	93/7	200	33-39	35-55	66	○	●	●	●	○	○
TC3013	93/7	200	32-38	45-65	68	○	●	○	●	○	
TC3014	93/7	200	31-37	30-50	59	○	●	●	●	○	
TC3021	93/7	200	30-38	35-55	67	○	●	○	●	○	
TC3022	93/7	200	30-36	30-50	58	○	●	○	●	○	●
TC3031	93/7	200	30-38	40-60	67	○	●	●	●		
Super Durable											
TC3605	93/7	160	30-36	28-42	63			●			●
TC3607	93/7	160	31-37	18-30	57	○	●	○		○	●
TC3005	93/7	200	32-38	14-30	62	○	●	●		○	●
TC3006	93/7	200	29-35	35-65	64	○	●	●		○	●
TC3007	93/7	200	31-37	33-47	64	○	●	●		○	●
TC3015	93/7	200	32-38	15-25	62	○	●	●		○	●
TC3017	93/7	200	28-34	25-45	61	-	●	●	-	-	●
TC3018	93/7	200	30-36	15-25	62	○	●	●	-	○	●
TC3025	93/7	200	32-38	20-40	62	●	●	●	-	-	●
TC3028	93/7	200	30-36	15-30	60	●	●	○			●
TC8801	90/10	180(12)	47-57	38-58	68	-	●	●	-	○	●
TC8001	90/10	200	45-55	35-65	64			●		●	●

Urethane

For Isocyanate or Uretdione Cured Powder Coatings

Curing temperature		High	←	→	Low
Grade	Alymers				
General industrial	UC9004				
	UC9006				
	UC9007				
	UC9008				
	UC9009				
	UC9012				
	UC9014				
	UC9015				
	UC9017				
	UC9018				
	UC9019				
	UC9020				
Super Durable	UC9016				

● For matting Systems ○ good ◐ very good ● excellent

Item code (Alymers)	Ratio (PE/NCO)	Cure schedule 10min x object T(°C)	Hydroxyl Value	Viscosity (Poise, at 200°C)	approx. Tg (°C)	Flow	Resistance to			
							Overbake	Gas oven	Impact	MEK rub
General Industrial										
UC9004	67/33	200	90-110	25-35	58	○	○	●		◐
UC9006	80/20	200	45-55	50-80	58	○	◐	●	●	○
UC9007	87/13	200	31-39	55-75	58			●	◐	
UC9008	87/13	200	31-39	70-90	63	○		●		
UC9009	80/20	200	35-45	40-60	62	○		●	○	◐
UC9012	65/35	200	95-115	10-30	56	○	◐	●		○
UC9014	65/35	200	100-120	30-50	58	○	○	●		○
UC9015	87/13	200	30-40	95-125	66	○		●		○
UC9017	83/17	200	38-46	35-55	58	◐	◐			●
UC9018	83/17	200	38-46	45-75	60	○	○	●		○
UC9019	80/20	200	33-47	45-75	57	◐		●	◐	◐
UC9020	83/17	200	35-45	35-55	54	○		●		○
UC9021	40/60	200	285-315	25-45	48	◐	○	◐		●
Super Durable										
UC9016	87/13	200	27-33	40-60	61			●		

Masterbatch

Gloss Control System

Masterbatch (PE resin containing additive)

Item code (Alymers)	Type	Acid Value	Viscosity (Poise, at 200°C)	Tg(°C)	Description
TC002	Masterbatch	28-34	27-37	Approx. 58	Masterbatch with 5% of a cure accelerator in a carboxylated polyester resin.
AC3002	Masterbatch	Max.4	50-80	Approx. 60	Masterbatch with 5% of a tribo additive in a hydroxylated polyester.
AC3005	Masterbatch	Max.5	18-32	Approx. 57	Flow aid Masterbatch for powder coatings. A hydroxylated polyester resin containing 15% of an acrylic polymer.

Dryblend systems for HAA Powder Coatings

* Tribo is applicable upon request.

Gloss (60°)	Genaral Industrial	Architectural	Super Durable
< 40GU	PC8802 + PC1803	PC8801 + PC1801 PC8807 + PC1836	PC8504 + PC1001 PC8501 + PC1818
< 30GU	PC8804 + PC1802	PC8803 + PC1801 PC8809 + PC1801	PC8502 + PC1818

*Remark: The cure schedule for all gloss control systems is 10min x 200°C based on substrate temperature.

HAA Hardener

Inomid™

Category

INOMID	Hydroxyalkylamide crosslinker for the formulation of durable outdoor powder coatings
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HAA Hardener

Item code (Inomid)	Type	Hydroxyl Value	Water Content(%)	Melting Point(°C)	Description
AH 001	Hardener	640 - 740	Max. 1	Min.120	Crosslinking agent for durable outdoor powder coatings

Health, Safety and Product Handling

Standard Packaging

[General] 25kg / bag, 875kg / pallet
[HAA Hardener] 25kg / bag, 800kg / pallet
* Different packing size is available upon request



Storage & Handling

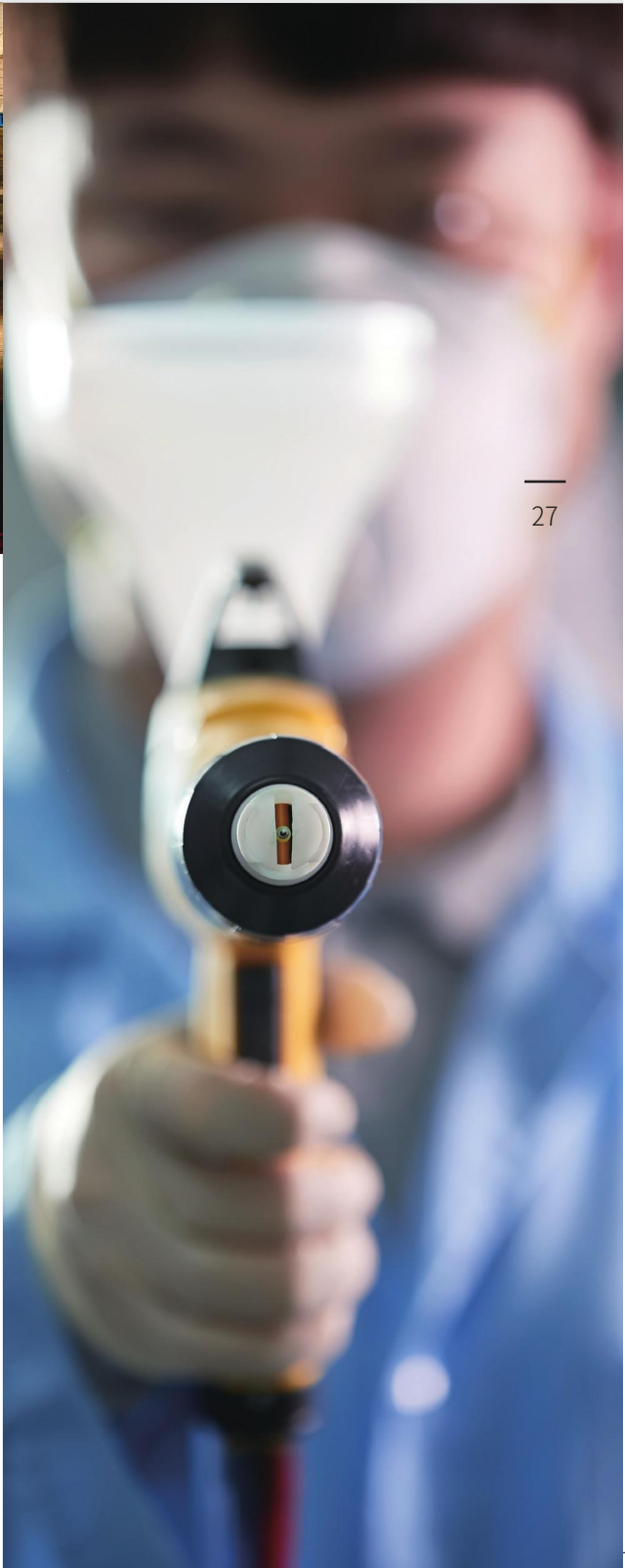
The resin should be stored in dry, cool, and well-ventilated places preferably below 25°C.

- ① Keep away from heat sources and direct sunlight.
- ② Do not stack more than two pallets.



Safety

Dust may be irritating. Prevent dusty conditions. Pouring of dry powder may create static electricity and a source of ignition. Be advised to install ground equipment to prevent electrical sparks. Dust may be explosive when mixed with air. Don't use near sparks or open flame. Use only with adequate ventilation.





Safety

Safety comes always first. We believe all incidents are preventable and our safety culture and performance are continuously improved by our HSE policy.

Professionality

We never stop studying new technology and knowledge. We research and develop for better quality and more eco-friendly products in order to meet our valuable customers' needs.

Integrity

We always strive to achieve our goals ethically. With Ecovadis Gold medal, we expect transparent and respectful interactions between management, employees, and our business partners, consistent with our Code of Business Integrity.



Environmental protection is one of the key values in our business; the protection of ecosystems and their constituent parts from changes associated with human activities. Basically powder coating technologies have contributed to zero VOC emission by replacing traditional liquid paints containing organic solvents that may lead to any form of pollution. Our research and development has been pursuing technological solutions that help make our environment cleaner and that meet environmental regulations.

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