

CATALYST SHOWCASE



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King Catalysts for Low Temperature Cure

King markets a wide variety of catalysts that offer low temperature capabilities ranging from room temperature to 100°C, depending on crosslinker, catalyst type, acid type/strength, use levels and cure time. While generally free acid catalysts offer the fastest cure and lowest cure temperatures, King offers a broad range of blocked catalysts that can be used at temperatures below 100°C. These latent catalysts offer greater package stability and reduced catalyst-pigment interaction than their free acid counterparts. The table below details catalyst offerings and minimum cure temperatures based on a cure schedule of 30 minutes, Resin/Urea (60/40 ratio).

[SAMPLE REQUEST](#)

Looking for Low Temperature Cure
for your Amino Thermoset System?

No One Offers
More Catalyst
Choices
Than King...

NACURE®
and
K-CURE®
Acid & Blocked
Acid Catalysts

KING
INDUSTRIES

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KING ACID CATALYSTS					
CATALYST	Room Temp.	80°C	90°C	100°C	ATTRIBUTES/USES
NACURE 155	X				General purpose. Excellent water, detergent & salt spray resistance.
NACURE 4000	X				Broad solubility and excellent adhesion. Good package stability.
NACURE 4054	X				Hydrophobic catalyst. Good package stability in pre-catalyzed conversion coatings.
NACURE XC-235	X				Recommended for high amino and partially alkylated melamine crosslinkers.
NACURE 5076	X				Complies with FDA 21 CFR, Sect. 175.300 (b) (3) xii & xiii (a&b)
K-CURE 1040	X				Highest gloss, excellent weather and exterior durability.
K-CURE 1040W	X				As above but non-flammable for waterborne applications.
K-CURE 129B	X				Fast cure, wood and paper coatings.
KING BLOCKED ACID (LATENT) CATALYSTS					
NACURE X49-110			X		Best overall properties, excellent water and corrosion resistance.
NACURE 2107			X		Good metal mark resistance.
NACURE 2500		X			Low temperature cure with excellent stability.
NACURE 2530		X			Low tendency to yellow or wrinkle.
NACURE 2547			X		Easy incorporation in aqueous systems.
NACURE 2558			X		Control wrinkling, solvent-popping and blistering in high solids systems.
NACURE XP-357		X			Low temperature cure with low tendency to yellow.
NACURE 4167		X			High NH/polymeric melamines.
NACURE 4167W			X		Waterborne high NH/polymeric melamines.
NACURE 4575				X	High gloss, superb storage with polymeric resins.
NACURE 8924	X				Balance of rapid cure/stability in waterborne formulations.

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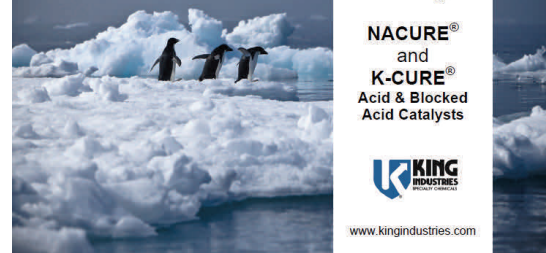
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When it comes to specific applications, the term “low temperature cure” becomes relative to that specific use and does not necessarily equate to the chart on the opposite page showing cure temperatures of 100°C or less. For example, coil coatings where line speeds can be a matter of seconds, 160°C would be considered a low temperature cure. Some common applications follow with their typical cure schedules and catalyst recommendations. As always, King’s technical service staff stands ready to assist you in selecting the best catalyst for your particular application and formulation parameters, simply call or email as shown in the address block.

[SAMPLE REQUEST](#)

Looking for Low Temperature Cure
for your Amino Thermoset System?



Applications

APPLICATIONS METAL SUBSTRATES	PRIMERS	CAN	COIL	GENERAL INDUSTRIAL	AUTOMOTIVE TOPCOATS
Typical Low Temperature Cure Schedule	20-30 minutes 90-100°C	30-120 seconds 160-180°C	30-60 seconds 160-180°C (PMT*)	20-30 minutes 90-100°C	20-30 minutes 120-140°C
Solventborne Systems	NACURE 155 NACURE X49-110	NACURE 5076 NACURE 155	NACURE 155 NACURE 2500	NACURE 2500 NACURE 155 NACURE XP-357	NACURE 5076 NACURE 5225
Waterborne Systems	NACURE 155 NACURE X49-110	NACURE 2500 NACURE 2558 NACURE 155	NACURE 2500 NACURE X49-110	NACURE 2547 NACURE X49-110	NACURE 2500 NACURE 2547

*PMT = Peak metal temperature

APPLICATIONS MISC. SUBSTRATES	PLASTICS	WOOD	PAPER	ADHESIVES	INKS
Typical Low Temperature Cure Schedule	20-30 minutes 80-100°C	30-120 seconds RT-80°C	10-30 seconds 120-160°C	5-10 minutes 80-100°C	5-10 sec./160-180°C or 10-20"/120-160°C
Solventborne Systems	NACURE 155 K-CURE 1040 K-CURE 129B NACURE XP-357	(Pre-catalyzed 2K) NACURE 4000 NACURE 4054 K-CURE 1040 K-CURE 129B	K-CURE 1040 NACURE XP-357	NACURE 155 K-CURE 1040	NACURE 155
Waterborne Systems	NACURE 155 NACURE 2500 K-CURE 129B	K-CURE 1040W NACURE 8924 NACURE 155	K-CURE 1040W K-CURE 129B	NACURE 155 K-CURE 1040W	NACURE 155 K-CURE 1040W

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