



STANDARD CATALYSTS

Catalyst 11 Dangerous Goods

CATALYST	9	11	14	15
Type	Modified aliphatic amine	Modified aromatic amine	Anhydride	Polyamide
Viscosity	80 – 100 mPa.s	35 – 60 mPa.s (at 35°C)	Powder	20 – 40 Pa.s
Colour	Amber	Tan to dark brown	White	Black
Density (g/cm ³)	0,99 - 1,01	1,0 - 1,1	0,77 – 0,79	0,95 - 0,98
Amount of Catalyst used in relation to CATALYST 9 (in x CATALYST 9)	1,00	1,20	2,5	7,0 - 21,1
Pot life (100 g at 25°C)	45 min	>4 h	24 h	2 h
Shelf life at RT	1 year in unopened containers	1 year in unopened containers	1 year in unopened containers	1 year in unopened containers
Cure schedule	16 to 24 h at RT or 2 to 4 h at 65°C	2 h at 100°C + 4 h at 150°C	3 h at 150°C + 3 to 16 h at 180°C	16 to 24 h at RT or 2 h at 80°C
Service Temperature (°C) - Continuous - Intermittent	120 150	180 205	230 260	90 120
Advantages	Chemical resistant Physical Strength RT cure Low viscosity Low cost Good for General Purpose Applications	Outstanding chemical resistance Physical strength Pot life Low viscosity High temperature performance Thermal shock resistant (in some cases)	High temperature performance Chemical resistance Pot life Increases viscosity of epoxy systems	RT cure Adjustable flexibility Pot life Low toxicity Wide mixing ratio Low cost
Disadvantages	Brittle (not good for low temperature) Pot life Toxicity	Elevated temperature cure Stains skin May crystallise at RT (heat to 65°C to liquify) Toxicity	High temperature cure Odour	High viscosity Softens at elevated temperature
Other comments	Good all-round epoxy curative	CATALYST 11 is subject to partial crystallisation at RT To remove crystals warm gently to at least 65°C and maintain until all crystals have gone into solution Storage is possible for several days at RT without crystallisation	Keep away from moisture. For lower viscosity use Catalyst 17	Easiest epoxy curative to use. Can mix with epoxy even without sophisticated weighing equipment

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Technical Data

CATALYST	15 LV	17-M-1* / 17(BE)	23 LV	24 LV
Type	Polyamide	Anhydride	Modified aliphatic amine	Modified aliphatic amine
Viscosity	5 – 15 Pa.s	slurry (at 35°C)	20 – 30 mPa.s	30 – 40 mPa.s
Colour	Black	Blue - grey	Water-white to slight amber	Water white to slight amber
Density (g/cm ³)	0,95 – 0,98	1,3 - 1,5	1,00 - 1,03	1,00 - 1,03
Amount of Catalyst used in relation to CATALYST 9 (in x CATALYST 9)	3,5 – 14,0	2,8	2,10	2,05
Pot life (100 g at 25°C)	2 h	24 h	60 min	30 min
Shelf life at RT	1 year in unopened containers	1 year in unopened containers	1 year in unopened containers	1 year in unopened containers
Cure schedule	16 to 24 h at RT or 2 h at 80°C	3 h at 120°C + 2 h at 150°C + 16 h at 175°C	16 to 24 h at RT or 4 h at 65°C	8 to 16 h at RT or 2 h at 65°C
Service Temperature (°C) - Continuous - Intermittent	65 90	230 260	90 120	90 120
Advantages	RT cure Adjustable flexibility Pot life Low toxicity Wide mixing ratio Low cost	Very good high temperature performance Pot life Lower viscosity alternative to Catalyst 14	Low viscosity Low cost Thermal shock resistance Pot life Tough impact resistance Low colour	Low viscosity Thermal shock resistant Tough impact resistant Low colour
Disadvantages	Softens at elevated temperature	Elevated temperature cure	Longer cure at RT than CATALYST 24 LV	Pot life
Other comments	Easiest epoxy curative to use. Can mix with epoxy even without sophisticated weighing equipment	CATALYST 17M1 may be solid at RT (Crystallised) When warmed to 65°C, it will liquefy. Cool down to room temperature before use.		Has tendency to semi-thixotrope various epoxy systems

***Catalyst 17M1 is a micronised version of Catalyst 17. It has smaller filler particles. Only Catalyst 17M1 available in Europe.**

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CATALYST	27-1	28	30	43
Type	Modified aromatic amine	Modified aromatic amine	Modified aliphatic amine	Imidazole / aliphatic amine
Viscosity	250 – 300 mPa.s	250 – 300 mPa.s	70 – 90 mPa.s	40 – 60 mPa.s
Colour	Brown	Brown	Slight amber	Amber
Density (g/cm ³)	1,00 – 1,05	1,00 – 1,05	0,92 - 0,96	0,90 – 1,10
Amount of Catalyst used in relation to CATALYST 9 (in x CATALYST 9)	1,75	1,75	2,70	0,75
Pot life (100 g at 25°C)	2 h	2,5 – 3 h	60 min	40 min
Shelf life at RT	1 year in unopened containers	1 year in unopened containers	1 year in unopened containers	1 year in unopened containers
Cure schedule	4 h at 120°C	4 h at 120°C	24 h at RT or 4 h at 65°C	16 to 24 h at 65°C and 2 to 4 hours at 150°C
Service Temperature (°C) - Continuous - Intermittent	175 200	175 200	90 120	177 205
Advantages	Chemical resistance Physical strength Pot life High temperature performance	Chemical resistance Physical strength Pot life High temperature performance	Non-blushing Resilient (more than CATALYST 9) Low viscosity RT cure Low colour	High temperature resistant Low cure temperature Chemical resistance
Disadvantages	Elevated temperature cure	Elevated temperature cure		Brittleness
Other comments	Non-staining alternative for CATALYST 11 ; Cannot be used in combination with the following products : STYCAST 2057 / * STYCAST 2651 MM STYCAST 2741 LV / STYCAST 3050 / ABLESTIK 45 LV	Non-staining alternative for CATALYST 11	Excellent epoxy curative if appearance is important	Non-staining alternative for CATALYST 11

****Do not use Cat 27-1 with Calcium Carbonate filled products****

27-1 can be used with Stycast 2651-40-W-1 as it uses a different filler than 2651MM

Health & Safety :

It is recommended to consult the Henkel product literature, including material safety data sheets, prior to using Henkel products. These may be obtained from your local sales office.

Note :

Please note that Technical Data Sheets may be updated from time to time. Customers are advised that the latest technical bulletins are always available upon request.

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Attention Specification Writers :

The technical information contained herein is generally consistent with the properties of the material and should not be used in the preparation of specifications, as it is intended for reference only. This technical information has been derived from one batch of material and may not exactly match the properties of each individual delivered batch. For assistance in preparing specifications, please contact your local Henkel office for details. Please contact Henkel Quality Assurance for test method details.

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