









Isotropic Conductive Adhesives | Material Selection Guide

Product	Product group		DELO-DUALBOND	
	Product code		IC VE 113858	IC343
General	Thermal conductivity [W/m*K]		n. d.	1.5 ¹⁾
	Basis		cationic	mCD
	Color		silver gray	silver gray
	Filler		80 % silver	70 % silver
Properties	Preliminary light fixation		1 – 5 s	1 – 5 s
	Low-temperature curing	< +100°C		✓
		> +100°C	✓	
	Viscosity	high		
		moderate	50,000	30,000
		low		
	Flexibility	high		
		low	✓	✓
	Chemical resistance	high		
		moderate	✓	✓
Curing	Curing temperature [°C]	min.	+110	+80
		max.	+150	+150
	Curing with thermode	–	–	
Curing in convection oven ³⁾		20 min @ +130°C n. d. n. d.	10 min @ +100°C 15 min @ +90°C 30 min @ +80°C	
Specific values	Compression shear strength [MPa]	Al/Al	32	n. d.
	Die shear strength [N]	at rt 2 x 2 mm ²	22 (preplated leadframe)	78 (preplated leadframe)
	Young's modulus [MPa]		5,600 DMTA at rt	on request
	Glass transition temperature [°C]		165	on request
	Resistivity [Ωcm]		3.4 x E-04	1.4 x E-4
Storage	Processing time	at rt	72 h	72 h
	Storage life		3 months at -18°C	6 months at -18°C
Halogen-free by the criteria of IEC 61249-2-21				
Special features of product			dispensable with needles with a diameter from 100 µm fast fixing strength	fast fixing strength

DELOMONOPOX					
DA375	IC VE 80909	DA VE 81935	IC386*	DA581*	DA772
2.3 ¹⁾	3.4 ¹⁾	0.7 ²⁾	2.0 ¹⁾	0.8 ¹⁾	0.4 ¹⁾
mCD	mCD	mCD	acrylate	cationic	anhydride
gray	gray	gray	silver gray	gray	gray
75 % silver	80 % silver	70 % silver	82 % silver	75 % silver flakes	75 % silver flakes
–	–	–	–	–	–
✓	✓	✓	✓	✓	
	100,000		90,000		
39,000		65,000		60,000	
					10,000
		✓	✓		
✓	✓			✓	✓
					✓
✓	✓	✓	✓	✓	
+80	+80	+100	+80	+80	+130
+180	+180	+180	+150	+150	+180
8 s @ +150°C	8 s @ +150°C	8 s @ +150°C	2 s @ +150°C	n. d.	n. d.
2 min @ +175°C 8 min @ +150°C 30 min @ +80°C	2 min @ +175°C 8 min @ +150°C 30 min @ +80°C	2 min @ +130°C 5 min @ +100°C n. d.	n. d. 5 min @ +150°C n. d.	2 min @ +150°C 10 min @ +100°C 30 min @ +80°C	10 min @ +175°C 30 min @ +150°C n. d.
13	n. d.	n. d.	10	20	n. d.
96 (preplated leadframe)	102 (preplated leadframe)	19 (preplated leadframe)	70 (Au) 60 (Cu)	90 (Au)	105 (preplated leadframe)
3,800 DMTA at rt	n. d.	62 DMTA at rt (tensile measurement)	3,600 DMTA at rt	5,400 DMTA at rt	5,000 DMTA at rt
116	n. d.	-49	145	110	155
1 x E-04	n. d.	48 x E-04	7 x E-04	3 x E-04	1 x E-04
48 h	48 h	72 h	24 h	72 h	48 h
4 months at -40°C	3 months at -40°C	6 months at -40°C	4 months at -18°C	6 months at -18°C	6 months at -18°C
					
optimized for semiconductors, metal leadframes, printed circuit boards, ceramic substrates	very high electrical and thermal conductivity	very flexible	extremely fast build-up of strength	impact-resistant good adhesion to gold	very good chemical resistance

* customer-specific product
¹⁾ Photoflash method, by the criteria of ASTM E 1461
²⁾ DELO standard 47
³⁾ in addition to substrate heating time
n. d. not determined

DA = Die Attach IC = Isotropic Conductive

Our material selection guides are a technical selection aid giving an overview of various product variants. We will be pleased to provide you with sales details, such as available container sizes, stock availability and minimum order quantities, on request.

The data and information provided are based on tests performed under laboratory conditions. Reliable information about the behavior of the product under practical conditions and its suitability for a specific purpose cannot be concluded from this. It is the user's responsibility to test the suitability of the product for the intended purpose by considering all specific requirements. Type, physical and chemical properties of the materials to be processed with the product, as well as all actual influences occurring during transport, storage, processing and use, may cause deviations in the behavior of the product compared to its behavior under laboratory conditions. All data provided are typical average values or uniquely determined parameters measured under laboratory conditions. The data and information provided are therefore no guarantee for specific product properties or the suitability of the product for a specific purpose. Nothing contained herein shall be construed to indicate the non-existence of any relevant patents or to constitute a permission, encouragement or recommendation to practice any development covered by any patents, without permission of the owner of this patent. All products provided by DELO are subject to DELO's General Terms of Business. Verbal ancillary agreements are deemed not to exist.

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MATERIAL SELECTION GUIDE

Isotropic conductive adhesives (ICA)

