

T-E-Klebertechnik

Anwendungs-, Verfahrens- und Dosiertechnik

40 Jahre Klebstoffenerfahrung



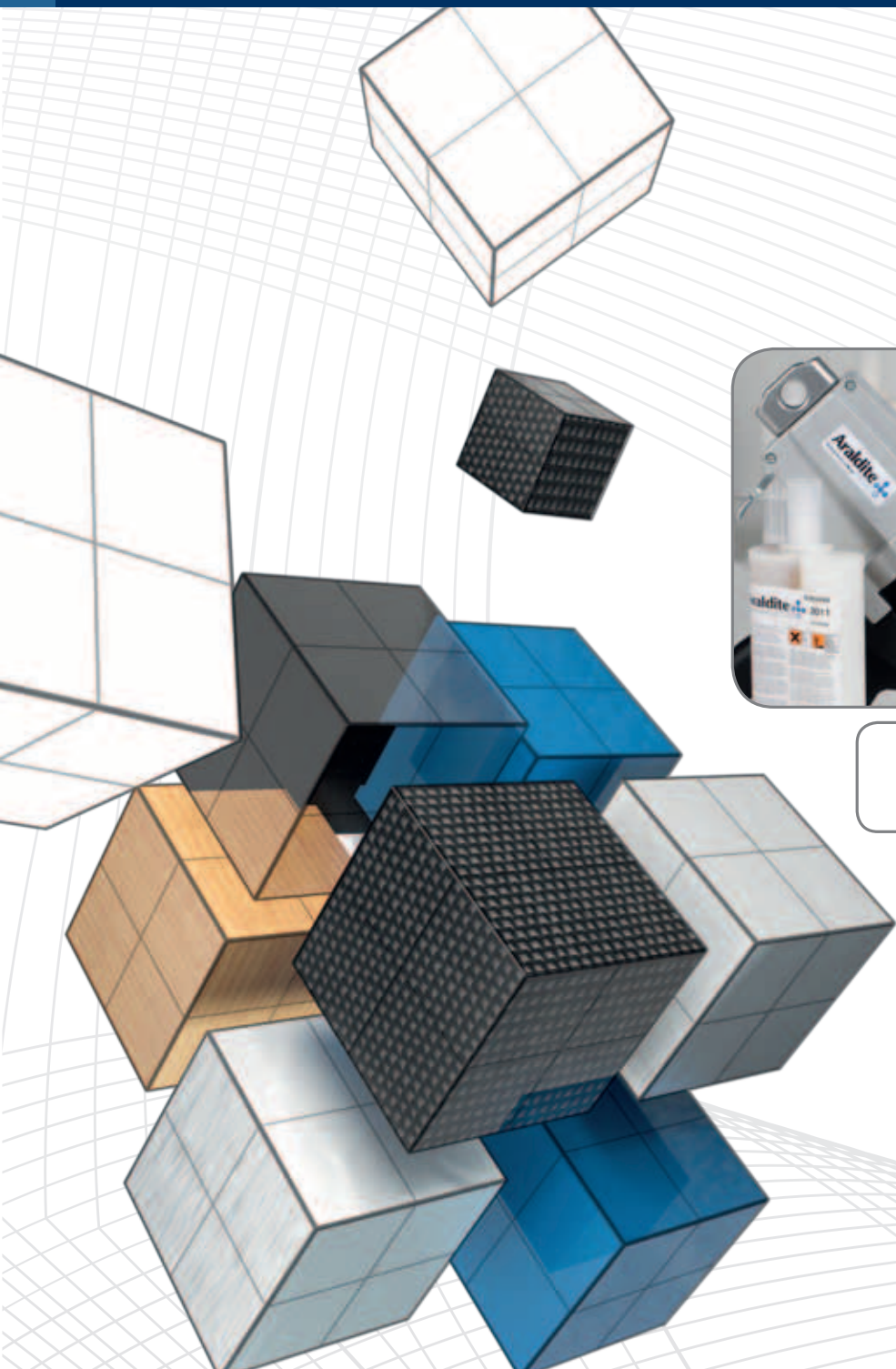
**HUNTSMAN**

Enriching lives through innovation

Advanced Materials

**Araldite**<sup>®</sup> adhesives  
Strength in bonding 2000+

Adhesives  
selector guide



## Properties and performance

	Chemical type	Key features	Metals					
			Mild steel	Stainless steel	Aluminium	Copper	Brass	Galvanized steel
Conditions								
Unit								
Araldite® 2011	EP	<ul style="list-style-type: none"> <li>&gt; Multi purpose</li> <li>&gt; Long working life</li> <li>&gt; Good resistance to dynamic loading</li> </ul>	●●●	●●●	●●●	●●●	●●●	●●●
Araldite® 2012	EP	<ul style="list-style-type: none"> <li>&gt; Fast curing</li> <li>&gt; General purpose</li> <li>&gt; Good long term durability</li> </ul>	●●●	●●●	●●●	●●	●●●	●
Araldite® 2013	EP	<ul style="list-style-type: none"> <li>&gt; Metal coloured paste</li> <li>&gt; Suitable for vertical applications</li> <li>&gt; Good environmental, chemical and temperature durability</li> </ul>	●●●	●●●	●●●	●●	●●	●●●
Araldite® 2014-1	EP	<ul style="list-style-type: none"> <li>&gt; Grey paste</li> <li>&gt; High temperature and chemical resistance</li> <li>&gt; Excellent durability on metals and against many chemicals</li> </ul>	●●●	●●●	●●●	●●	●●	●
Araldite® 2015	EP	<ul style="list-style-type: none"> <li>&gt; Toughened paste</li> <li>&gt; Ideal for GRP, SMC and dissimilar substrates</li> <li>&gt; Excellent resistance to dynamic loading</li> </ul>	●●●	●●●	●●●	●●●	●●●	●
Araldite® 2031	EP	<ul style="list-style-type: none"> <li>&gt; Toughened adhesive, resilient bond</li> <li>&gt; Suitable for metal and composite bonding, good adhesion onto polyamides</li> </ul>	●●	●●●	●●	●●●	●●●	●●
Araldite® 2018	PUR	<ul style="list-style-type: none"> <li>&gt; Good UV stability</li> <li>&gt; Ideal for bonding thermoplastics</li> <li>&gt; Long working life</li> </ul>	●●	●	●	●	●	●●
Araldite® 2028-1	PUR	<ul style="list-style-type: none"> <li>&gt; Transparent</li> <li>&gt; Fast curing</li> <li>&gt; UV stable</li> </ul>	●●	●●	●●	●	●	●●●
Araldite® 2029	PUR	<ul style="list-style-type: none"> <li>&gt; Medium open time</li> <li>&gt; Designed to bond composites and metals</li> <li>&gt; Well balanced strength and durability</li> </ul>	●●●	●●●	●●●	●●●	●●	●●●
Araldite® 2021	MMA	<ul style="list-style-type: none"> <li>&gt; Rapid curing</li> <li>&gt; High peel and shear strength</li> <li>&gt; Multi purpose</li> </ul>	●●●	●●●	●●●	●●	●	●●
Araldite® 2022	MMA	<ul style="list-style-type: none"> <li>&gt; Ideal for bonding thermoplastics</li> <li>&gt; Multi purpose</li> <li>&gt; Good sanding properties</li> </ul>	●●●	●●●	●●●	●●	●●	●●●
Araldite® 2047-1	MMA	<ul style="list-style-type: none"> <li>&gt; Outstanding adhesion to copper, brass, galvanized and stainless steel</li> <li>&gt; Requires minimal surface treatment</li> <li>&gt; Gap filling up to 5 mm</li> </ul>	●●	●●●	●●	●●●	●●●	●●●
Araldite® 2048	MMA	<ul style="list-style-type: none"> <li>&gt; Tolerant to "less than ideal" pretreatment</li> <li>&gt; Gap filling up to 8 mm</li> <li>&gt; Tough flexible bonds for use in dynamic environment</li> </ul>	●●	●●●	●●●	●●●	●●●	●●
Araldite® 2052-1	MMA	<ul style="list-style-type: none"> <li>&gt; Very high temperature and chemical resistance</li> <li>&gt; Tolerant to "less than ideal" pretreatment</li> <li>&gt; Excellent on metals</li> </ul>	●●	●●●	●●●	●●●	●●●	●

Thermosets / composites				Thermoplastics					Miscellaneous substrates				Viscosity	Work time	
GRP (UP)	GRP (EP)	CFRP	SMC	PVC	PA	ABS, ASA, SAN	PC	PMMA	Ceramic	Glass	Rubber	Wood			
														Pot life (100 g at 23°C)	
														Pa·s	min
••••	••••	••••	••••	•	••	••••	••	•	••••	••••	••••	••••	40	100	
••••	••••	••	••	••	•	••	••	•	••••	••••	•	••••	30	6	
••••	••	••	••••	••••	•	•	•	••	••••	••••	•	••••	thixotropic	65	
••••	••••	••	••••	••	•	••	•	•	••	••••	••	••••	thixotropic	60	
••••	••••	••••	••••	••	•	••	••	••	••••	••••	••	••••	thixotropic	35	
••••	••••	••	••••	••	••••	••	••	•	••••	••••	••	••••	thixotropic	60	
••••	••••	••••	••••	••	••	••••	••••	••	••	••	••••	••	8	40	
••••	••••	••••	••••	••••	••	••••	••••	••	••	••	••	••	5	6	
••••	••••	••••	••	••••	••	••••	••••	••••	••	••	••	••	thixotropic	40	
••••	••	••	••	••••	••	••	••••	••••	••••	••••	••	•	thixotropic	3	
••••	••	••	••	••••	•	••••	••••	••••	••••	••	••	•	thixotropic	10	
••	•	•	••	••••	•	••••	••••	••••	••	••	••	•	thixotropic	5	
••	••••	••••	••••	••••	•	••••	••••	••••	••	••	••	•	thixotropic	10	
•	•	•	•	••	•	••••	••	••••	••••	••••	•	•	thixotropic	15	

The data below indicates the detailed properties and performance of each product. This data was obtained following recommended pre-treatment of substrates.

Cure speed	Mechanical properties		Bond strength	Durability in			Colour (mixed)	Packaging					
	Cure time at 23°C to LSS* = 1 N/mm <sup>2</sup>	E-modulus at 23°C		Elongation at break at 23°C	LSS* aluminium at 23°C	Water/humidity		Chemicals	Heat	50ml	200ml	380ml	480ml
min	N/mm <sup>2</sup>	%	N/mm <sup>2</sup>										
420	1900	9	26	●	●●	●●	yellow	○	○	○			○
20	2520	4	18	●●	●●●	●●	yellow	○	○				○
240	1300	1	18	●●	●●	●●	grey	○	○	○			○
180	4000	1	19	●●●	●●●	●●●	grey	○	○	○			○
240	2000	4	16	●●●	●●●	●●●	beige	○	○	○			○
360	1000	5	19	●●●	●●●	●●●	black	○		○			
240	16	45	7	●●	●	●●	colourless		○				
15	16	60	15	●	●	●●	transparent	○					
240	580	39	25	●●	●●	●●●	grey	○					
8	2300	5	23	●●	●●	●●●	yellow	○		○			
18	2050	3	25	●●	●	●●●	yellow	○		○			
15	850	15	19	●●	●●	●●	brown	○				○	
15	360	91	24	●●	●	●●●	red	○				○	
20	1750	7	24	●●	●●●	●●●	red					○	

\* LSS = Lap Shear Strength

# Key questions

Adhesives	Epoxy	Methacrylate	Polyurethane
	Load-bearing adhesives good for metals and composites	Fast setting and resilient for composites, thermoplastics and metals	Flexible adhesive for composites and certain thermoplastics
1. Do you require a multi-purpose adhesive with a rapid cure?	Araldite® 2012	Araldite® 2047-1	–
2. Do you require a multi-purpose adhesive with a long working life?	Araldite® 2011	–	Araldite® 2029
3. Do you require a fast cure adhesive?	Araldite® 2012	Araldite® 2021 Araldite® 2047-1	Araldite® 2028-1
4. Do you have large areas for bonding and/or require a long working time?	Araldite® 2013 Araldite® 2014-1 Araldite® 2031	–	Araldite® 2029 Araldite® 2018
5. Do you require high toughness and the ability to bond different substrates?	Araldite® 2015 Araldite® 2031	Araldite® 2022 Araldite® 2048 Araldite® 2047-1	Araldite® 2029
6. Do you require chemical resistance or performance at high temperatures?	Araldite® 2014-1	Araldite® 2052-1	–
7. Do you require an adhesive for gap filling or vertical applications?	Araldite® 2013 Araldite® 2014-1 Araldite® 2015 Araldite® 2031	Araldite® 2021 Araldite® 2022 Araldite® 2047-1 Araldite® 2048	Araldite® 2029
8. Do you require a flexible adhesive?	–	Araldite® 2048	Araldite® 2018 Araldite® 2028-1
9. Do you require a transparent adhesive?	–	–	Araldite® 2028-1

## Huntsman Advanced Materials

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