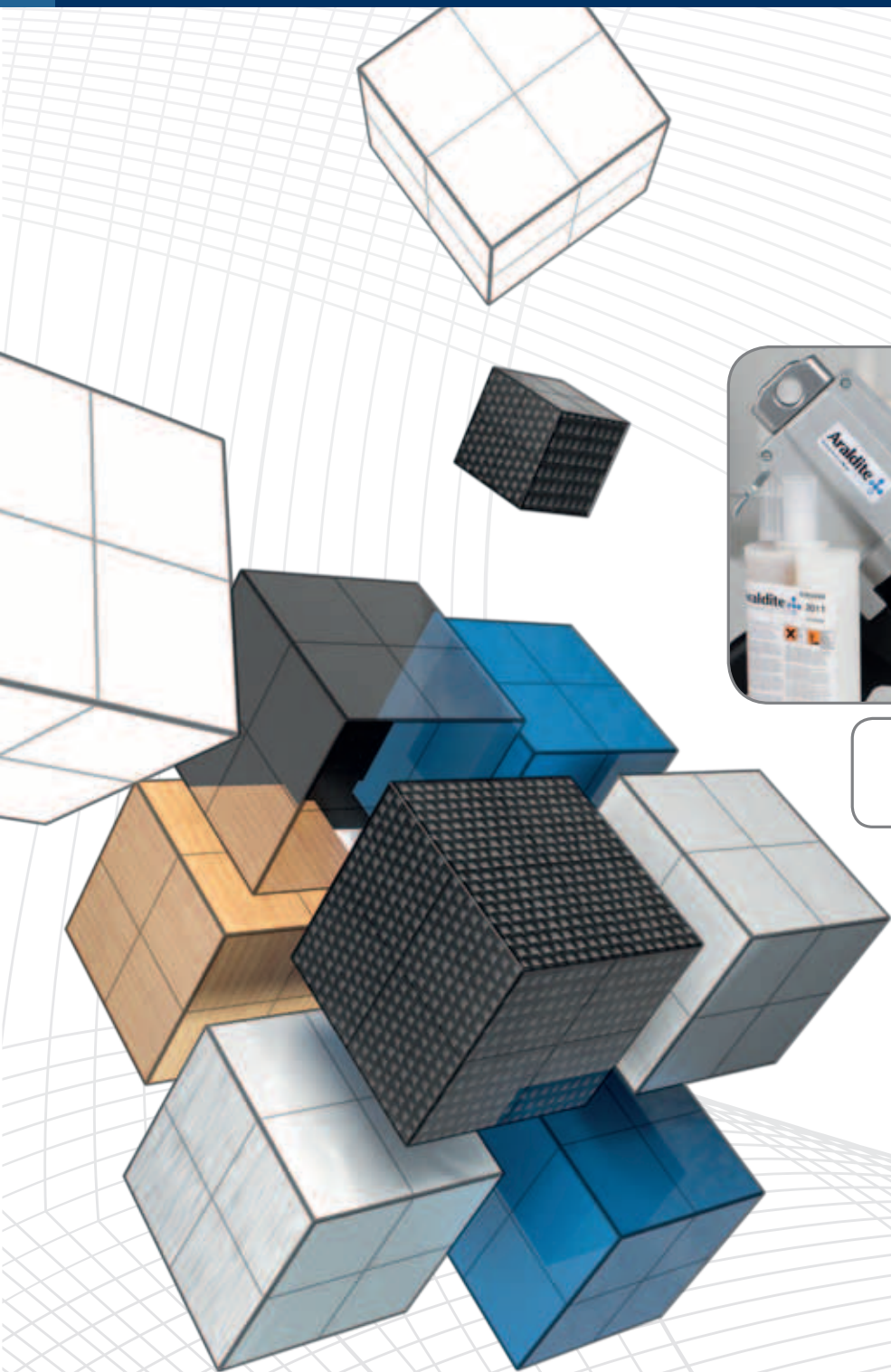
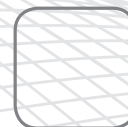
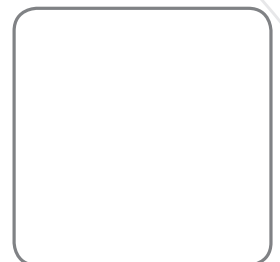


Advanced Materials

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

| 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 ² | 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 ² | % | N/mm ² | | | | | | | | | | |
| 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 |

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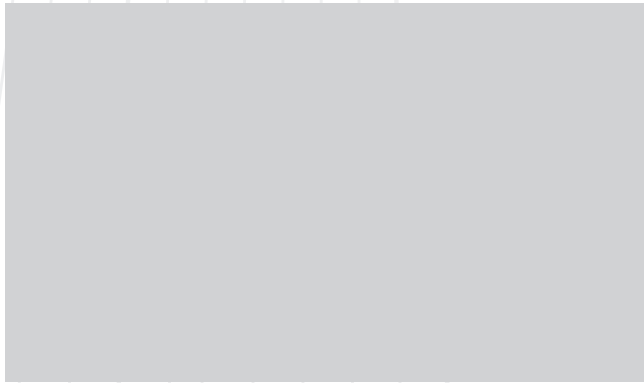
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www.huntsman.com/advanced_materials
advanced_materials@huntsman.com

Europe

Huntsman Advanced Materials (Switzerland) GmbH
Klybeckstrasse 200
P.O. Box
4002 Basel
Switzerland
Tel. +41 61 299 20 41
Fax +41 61 299 20 40

India, Middle East, Africa & Turkey

Huntsman Advanced Materials (India) Pvt. Ltd.
5th Floor, Bldg. No. 10
Solitaire Corporate Park, 167
Guru Hargovindji Marg, Chakal, Andheri (East)
Mumbai – 400 093
India
Tel. + 91 22 4095 1556
Fax + 91 22 4095 1300 / 1500

Asia / Pacific

Huntsman Advanced Materials (Guangdong) Co., Ltd.
Shanghai Suites 4604 – 4606, 46F Maxdo Center
8 Xing Yi Road
Shanghai, 200336
P.R. China
Tel. + 86 21 2208 7588
Fax + 86 21 2208 7511

Americas

Huntsman Advanced Materials Americas Inc.
10003 Woodloch Forest Drive
The Woodlands
Texas 77380
USA
Tel. +1 888 564 9318
Fax +1 281 719 4047

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