

**Advanced Materials**

**Araldite® 2000+ Adhesives**

Selector Guide





## About Huntsman Advanced Materials

Huntsman Advanced Materials is a leading global supplier of synthetic and formulated polymer systems for customers requiring high-performance materials which outperform the properties, functionality and durability of traditional materials. Over 2,300 associates at 13 locations worldwide work to fulfill this promise every day.

We enjoy a long heritage of pioneering technological excellence and offer a unique and wide range of innovative and tailor-made solutions to over 9,000 customers in over 90 different countries. We maintain leading positions in our key markets through product differentiation, technical support and customer focus. The primary markets we serve include:

- Aerospace & Defense
- Construction
- Consumer-DIY
- Electrical Engineering
- Electronics
- Paint & Coatings
- Sport & Leisure
- Wind Energy

## Structural Bonding

Structural bonding techniques play a critical role in today's engineering excellence. As designers and engineers strive to bring lightweight and durable products to market within the shortest possible timeframe, they are increasingly turning to engineering adhesives to solve complex design issues.

With over 60 years as pioneers in epoxy adhesive technology, Huntsman Advanced Materials offers a full range of adhesives to address many of the issues engineers face on a daily basis. Our complete range of Araldite® 2000+ Adhesives provides superior bonding solutions for plastic, metal and composite materials.



## Why are more people choosing to assemble their products with adhesives?

### Design Flexibility

**Dissimilar Materials** – Unlike welding, Araldite® 2000+ Adhesives can join metals to plastics, aluminum to steel, or a variety of other materials.

**Complex Assemblies** – Ability to join unusual and complex shapes.

**Finishing Operations** – Adhesive bonding gives a smooth appearance to designs. There are no protruding fasteners such as screws or rivets, and no spot weld marks.

**Watertight Joints** – The elimination of drilling operations helps prevent water ingress.

### Increased Productivity

**Easy to Use** – Araldite® 2000+ Adhesives are available in tubes, cartridges and larger/bulk packaging to suit individual applications. The convenient packaging sizes suit all audiences, from consumer to industrial.

**Simplicity** – Adhesive bonding can both simplify and improve assembly procedures by replacing several mechanical fasteners or processing steps with a single bond or by allowing several components to be joined in one operation.

### Time and Cost Savings

**Reduced Assembly Times** – By reducing the number of joining and finishing operations, the overall production cycle can be reduced, saving on labor costs and resulting in improved productivity.

**Reduced Raw Material Costs** – By joining and sealing simultaneously, the quantity and cost of raw materials required can be reduced. Huntsman gap-filling adhesives can allow for lower than optimal part tolerances, which can result in raw material cost savings.

### Improved Product Performance

**Fatigue Performance** – When adhesives are used in lieu of mechanical fasteners, fatigue performance may be increased. Increased fatigue performance can extend the product service life.

**Stiffer Structure** – Continuous bonded joints may produce stiffer structures. Alternatively, if increased stiffness is not required, the weight of the structure can be decreased while maintaining the required structural integrity.

**Corrosion Protection** – Araldite® Adhesives reduce the potential for corrosion usually associated with conventional fastening or bonding techniques.

**Vibration Damping** – Incorporated into the design, adhesive bonds can have good damping properties useful for reducing sound or vibration.



# Aradlite® 2000+ Adhesives

## Typical Properties

	Aradlite® 2011	Aradlite® 2010-1	Aradlite® 2012	Aradlite® 2013	Aradlite® 2014	Aradlite® 2015	Aradlite® 2021	Aradlite® 2022	Aradlite® 2040	Aradlite® 2041	Aradlite® 2042
<b>Key Property</b>	Multi Purpose	Rapid Cure		Chemical / Temperature Resistance		Toughened			Flexible		
<b>Chemical Type</b>	EPO	EPO	EPO	EPO	EPO	EPO	ACR	ACR	PUR	PUR	PUR
<b>Product Description</b>	<ul style="list-style-type: none"> <li>Low shrinkage</li> <li>Long working life</li> <li>Pale yellow</li> </ul>	<ul style="list-style-type: none"> <li>Toughened</li> <li>Bonds wide variety of materials</li> <li>High sheer and peel strength</li> <li>Pale yellow</li> </ul>	<ul style="list-style-type: none"> <li>General purpose</li> <li>Tough resilient bonds</li> <li>Pale yellow</li> </ul>	<ul style="list-style-type: none"> <li>Suitable for vertical applications</li> <li>Gap filling</li> <li>Gray</li> </ul>	<ul style="list-style-type: none"> <li>2:1 mix ratio</li> <li>Gap filling</li> <li>Gray</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for GRP, SMC and dissimilar substrates</li> <li>Gap filling</li> <li>Beige</li> </ul>	<ul style="list-style-type: none"> <li>Rapid curing</li> <li>High peel strength</li> <li>Multi purpose</li> <li>Pale yellow</li> </ul>	<ul style="list-style-type: none"> <li>Good sanding properties</li> <li>Ideal for bonding thermoplastics</li> <li>Beige</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for bonding plastics</li> <li>Gap filling</li> <li>Gray</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for bonding plastics</li> <li>Rapid cure</li> <li>Pink</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for bonding plastics</li> <li>Rapid cure</li> <li>Filled system</li> <li>Pink</li> </ul>
<b>Processing Data</b>											
Mixed viscosity, cp, 77°F	45,000	80,000	30,000	Thixotropic	Thixotropic	Thixotropic	Thixotropic	60,000	50,000	50,000	Thixotropic
Pot life (Gel time), 100g mix	100	10	7	65	60	35	3	10	15	15	3
Time required at 77°F to reach light handling strength (145 psi) min	420	30	20	240	180	240	8	18	360	240	360
<b>Performance Data</b>											
Lap shear strength*, Al, psi	3,700	2,700	2,600	2,600	2,700	2,400	3,200	3,600	1,200	1,650	2,300
Peel strength*, pli	28	45	Not Available	23	17	25	63	23	23	Not Available	Not Available
Tg* (DMA), °F(°C)	147 (64)	130 (55)	130 (55)	156 (69)	169 (76)	181 (83)	102 (39)	106 (41)	82 (28)	126 (52)	86 (30)
Gap filling		√	√	√	√	√	√	√	√	√	√
<b>Resistance Properties</b>											
Chemical	M	G	G	E	E	G	G	E	M	M	M
Heat	M	G	G	G	E	G	E	G	E	M	M
Water	M	G	M	G	E	G	G	G	G	M	M
Impact	E	E	M	M	M	G	E	E	E	G	G
<b>Packaging</b>											
<b>Cartridges</b>											
50ml	√	√	√	√	√	√	√	√	√	√	√
200ml	√	√	√	√	√	√	√	√	√	√	√
400ml											
Working packs	√				√	√		√			

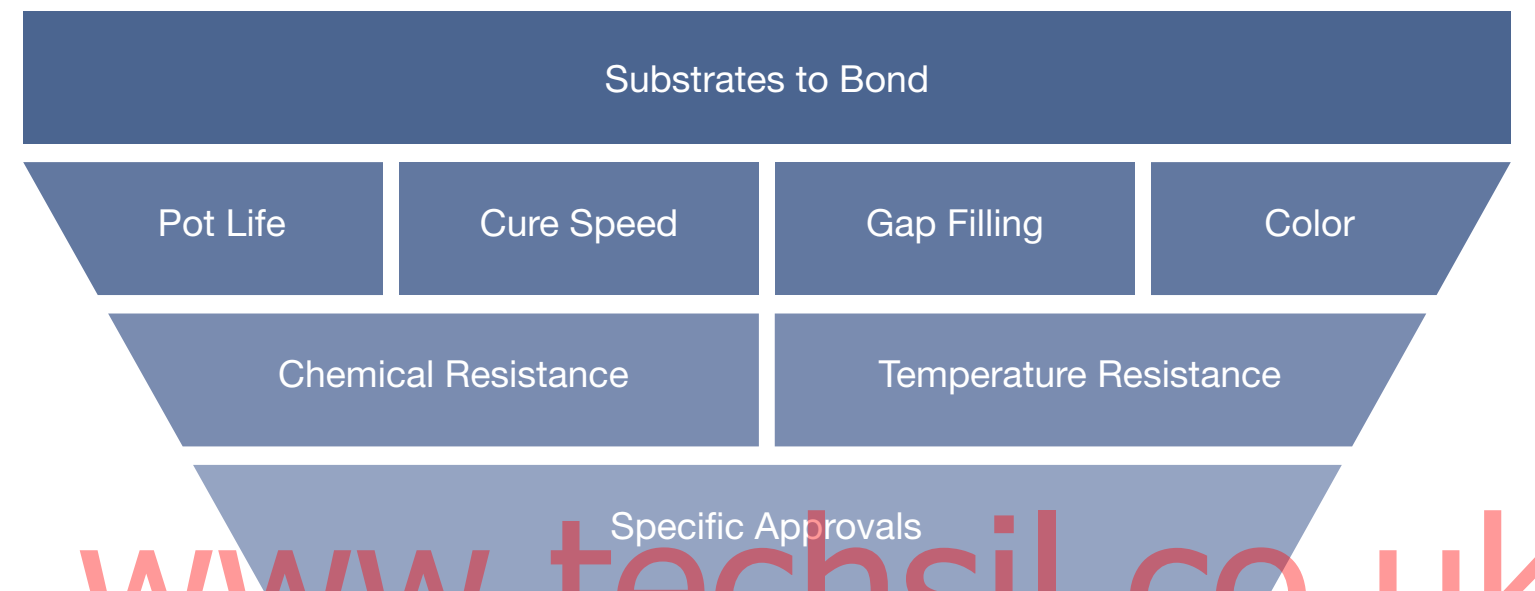
Key: E= Excellent, G= Good, M= Moderate; EPO = Epoxy, ACR = Acrylic, PUR = Polyurethane  
 \*See TDS for curing details

Substrate Performance	Aradlite® 2010-1	Aradlite® 2011	Aradlite® 2012	Aradlite® 2013	Aradlite® 2014	Aradlite® 2015	Aradlite® 2021	Aradlite® 2022	Aradlite® 2040	Aradlite® 2041	Aradlite® 2042
<b>Metals</b>											
Mild Steel	E	E	E	E	E	E	E	E	G	G	G
Stainless Steel	E	E	E	E	E	E	E	E	G	G	G
Aluminum	E	E	E	E	E	E	E	E	G	G	G
Copper	E	E	E	E	E	E	E	G	G	G	G
Brass	E	E	E	E	E	E	M	M	G	G	G
Galvanized Steel	E	E	M	E	M	M	E	E	G	G	G
<b>Thermosets/Composites</b>											
GRP (UP)	G	E	E	E	E	E	E	E	G	G	G
GRP (EP)	G	E	E	G	E	E	G	G	G	G	G
CFRP	E	E	G	G	G	E	G	G	G	G	G
SMC	G	E	G	E	E	E	G	G	M	M	M
<b>Thermoplastics</b>											
PVC	G	M	G	E	G	G	E	E	M	M	M
PA	M	G	M	M	M	M	G	M	M	M	M
ABS	M	E	G	M	G	G	G	E	M	M	M
PC	M	G	G	M	M	G	E	E	M	M	M
PMMA	M	M	M	G	M	G	E	E	M	M	M
<b>Misc. Substrates</b>											
Ceramic	E	E	E	E	G	E	E	E	G	G	G
Glass	E	E	E	E	E	E	E	G	G	G	G
Rubber	M	E	M	M	G	G	G	G	E	E	E
Wood	E	E	E	E	E	E	M	M	E	E	E

Key: E= Excellent, G= Good, M= Moderate

## Adhesives Selection Funnel

How to choose the right product



[www.techsil.co.uk](http://www.techsil.co.uk)

## Global Presence – 13 Manufacturing Sites



# HUNTSMAN

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### For More Information

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