

HUNTSMAN

Enriching lives through innovation

Advanced Materials

Araldite® 2000+ Adhesives

Selector Guide

KRAYDEN, INC.

AUTHORIZED DISTRIBUTOR
1-800-448-0406



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	
Key Property		Multi Purpose	Rapid Cure		Chemical / Temperature Resistance		Toughened			Flexible			
Chemical Type		EPO	EPO	EPO	EPO	EPO	EPO	ACR	ACR	PUR	PUR	PUR	
Product Description		<ul style="list-style-type: none"> Low shrinkage Long working life Pale yellow 	<ul style="list-style-type: none"> Toughened Bonds wide variety of materials High sheer and peel strength Pale yellow 	<ul style="list-style-type: none"> General purpose Tough resilient bonds Pale yellow 	<ul style="list-style-type: none"> Suitable for vertical applications Gap filling Gray 	<ul style="list-style-type: none"> 2:1 mix ratio Gap filling Gray 	<ul style="list-style-type: none"> Ideal for GRP, SMC and dissimilar substrates Gap filling Beige 	<ul style="list-style-type: none"> Rapid curing High peel strength Multi purpose Pale yellow 	<ul style="list-style-type: none"> Good sanding properties Ideal for bonding thermoplastics Beige 	<ul style="list-style-type: none"> Ideal for bonding plastics Gap filling Gray 	<ul style="list-style-type: none"> Ideal for bonding plastics Rapid cure Pink 	<ul style="list-style-type: none"> Ideal for bonding plastics Rapid cure Filled system Pink 	
Processing Data	Mixed viscosity, cp, 77°F	45,000	80,000	30,000	Thixotropic	Thixotropic	Thixotropic	Thixotropic	60,000	50,000	50,000	Thixotropic	
	Useable life of adhesive at 77°F, in mixer nozzle (min)	105	10	4	80	40	40	3	10	10	Not Determined	Not Determined	
	Pot life (Gel time), 100g mix	120	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	
Performance Data	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		√	√	√	√	√	√	√	√	√	√	
	Resistance Properties												
	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	M	G	E	E	G	G		
Packaging	Cartridges												
	50ml	√	√	√	√	√	√	√	√	√	√	√	
	200ml	√	√	√	√	√	√	√	√	√	√	√	
	400ml						√	√	√				
	Working packs	√				√							

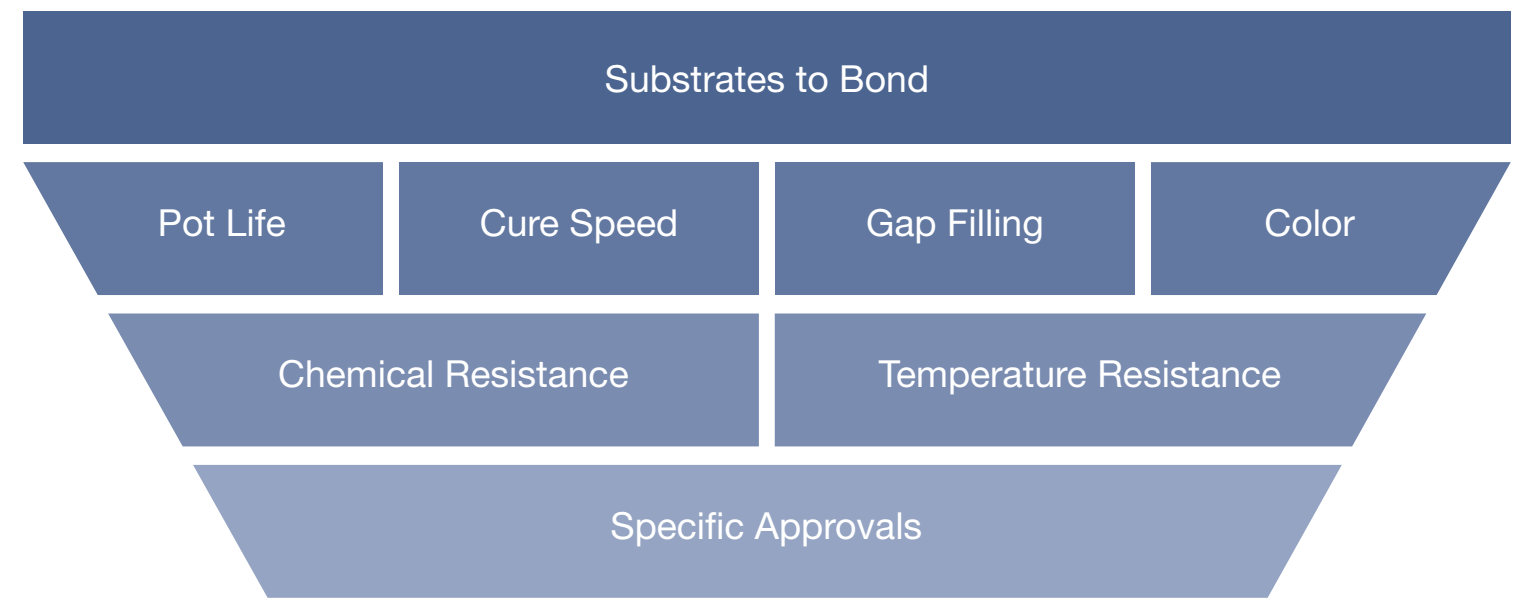
Key: E= Excellent, G= Good, M= Moderate; EPO = Epoxy, ACR = Acrylic, PUR = Polyurethane
 *See TDS for curing details

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
Metals	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
Thermosets/Composites	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
Thermoplastics	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
Misc. Substrates	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



Global Presence – 13 Manufacturing Sites



HUNTSMAN

Enriching lives through innovation

For More Information

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

Americas:

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

Europe/Africa:

Huntsman Advanced Materials (Switzerland) GmbH
Klybeckstrasse 200
P.O. Box
4002 Basel
Switzerland
Tel. +41 61 299 11 11
Fax +41 61 299 11 12

India/MiddleEast:

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 1556-60
Fax + 91 22 4095 1300/1400/1500

Asia/Pacific:

Huntsman Advanced Materials (Guangdong) Co., Ltd.
Rooms 4604 – 4608, Maxdo Center
8 Xing Yi Road
Shanghai, 200336
P.R. China
Tel. +86 21 2208 7588
Fax +86 21 2208 7511



Legal Information

Araldite® is a registered trademark of Huntsman Corporation or an affiliate thereof in one or more, but not all, countries. Sales of the product described herein ("Product") are subject to the general terms and conditions of sale of either Huntsman Advanced Materials LLC, or its appropriate affiliate including without limitation Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., or Huntsman Advanced Materials (Hong Kong) Ltd. or Huntsman Advanced Materials (Guangdong) Co., Ltd. ("Huntsman"). The following supersedes Buyer's documents. While the information and recommendations included in this publication are, to the best of Huntsman's knowledge, accurate as of the date of publication, NOTHING CONTAINED HEREIN IS TO BE CONSTRUED AS A REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS, OR WARRANTIES AS TO QUALITY OR CORRESPONDENCE WITH PRIOR DESCRIPTION OR SAMPLE, AND THE BUYER ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE OF SUCH PRODUCT, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES. No statements or recommendations made herein are to be construed as a representation about the suitability of any Product for the particular application of Buyer or user or as an inducement to infringe any patent or other intellectual property right. Data and results are based on controlled conditions and/or lab work. Buyer is responsible to determine the applicability of such information and recommendations and the suitability of any Product for its own particular purpose, and to ensure that its intended use of the Product does not infringe any intellectual property rights. The Product may be or become hazardous. Buyer should (i) obtain Material Safety Data Sheets and Technical Data Sheets from Huntsman containing detailed information on Product hazards and toxicity, together with proper shipping, handling and storage procedures for the Product, (ii) take all steps necessary to adequately inform, warn and familiarize its employees, agents, direct and indirect customers and contractors who may handle or be exposed to the Product of all hazards pertaining to and proper procedures for safe handling, use, storage, transportation and disposal of and exposure to the Product and (iii) comply with and ensure that its employees, agents, direct and indirect customers and contractors who may handle or be exposed to the Product comply with all safety information contained in the applicable Material Safety Data Sheets, Technical Data Sheets or other instructions provided by Huntsman and all applicable laws, regulations and standards relating to the handling, use, storage, distribution and disposal of and exposure to the Product. Please note that products may differ from country to country. If you have any queries, kindly contact your local Huntsman representative.