

Advanced Materials

HUNTSMAN

THE ADHESIVES YOU NEED NO MATTER YOUR INDUSTRY

Araldite® 



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The ARALDITE® 2000
Adhesive Core Range
gives you the reliability
and flexibility to cover 80%
of your bonding needs.



MADE POSSIBLE



SIMPLIFY PRODUCTION AND SPEED UP REPAIRS

At Huntsman Advanced Materials, we make things possible.

Whatever bonding task is in front of you, you can rely on the ARALDITE® 2000 Adhesive Core Range. Whether you need to assemble high-performance products, or make repairs on the fly in tough conditions, these adhesives provide you with safe, straightforward and streamlined bonding solutions, as well as supply security.

The ARALDITE® 2000 Adhesive Core Range includes products which are resistant to impact, high temperatures, water and chemicals. The range also offers a variety of colors, open times, viscosities, and appearances.

STRAIGHTFORWARD

Covering up to 80% of your bonding needs, the ARALDITE® 2000 Adhesive Core Range can simplify your product selection when planning a new project. Using these well-tested adhesives, backed up by our expert development support, you can improve predictability, accelerate time to market and keep your project within budget.



↑ **80%** Cover up to 80% of your bonding needs

STREAMLINED

Working with this versatile range of products helps you reduce your stock keeping unit (SKU) inventory and simplify your procurement processes. Using these multi-purpose adhesives for a variety of jobs, you can also reduce time spent on worker training.

SECURE SUPPLY

Available through our global network of distributors, choosing the ARALDITE® 2000 Adhesive Core Range allows you to safeguard your production process, reducing your risk of supply chain disruptions and production downtime.



MAXIMIZE YOUR FLEXIBILITY WITH MINIMIZED STOCK

Ideas MADE POSSIBLE

The ARALDITE® Adhesive Core Range consists of high-performance products within epoxy, acrylic and polyurethane technologies. These adhesives are suitable for use in a wide range of industries and include products with KIWA approval, Lloyd's Register approval and conformity to HL3 requirements, Class R1 and R7, of the Railway European Fire Protection Standard EN 45545-2.

For more specific tasks, Huntsman offers 200+ other specialty adhesives you can rely on for all your bonding needs.

The ARALDITE® 2000 Adhesive Core Range

Two-component epoxy adhesives

ARALDITE® 2011
Versatile and long pot life

ARALDITE® 2012
Versatile and fast curing

ARALDITE® 2014
Highly chemical and temperature resistant

ARALDITE® 2015-1
Dynamic load resistant and suitable for dissimilar substrates

ARALDITE® 2019 (AW 4859 / HW 4859)
High-end carbon composites bonding

ARALDITE® 2031-1
Black tough and weathering resistant

Two-component acrylic adhesives

ARALDITE® 2051
Ultra fast assembly in extreme conditions

ARALDITE® 2053 - 05/15
Flexible and fast curing

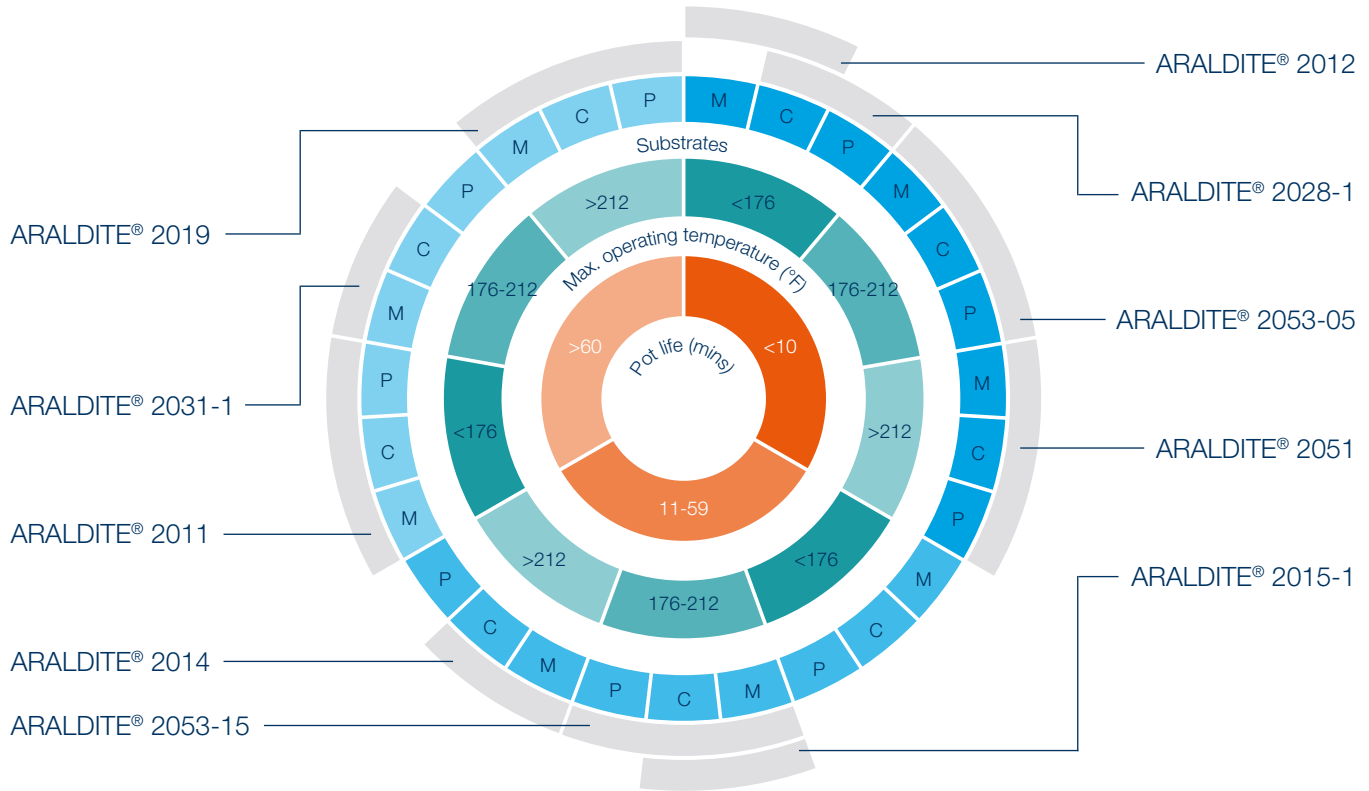
Two-component polyurethane adhesives

ARALDITE® 2028-1
Fast and invisible

FIND THE BEST ADHESIVE FOR YOUR JOB

In this chart, you can identify the product that matches the materials you are bonding, the maximum operating temperature and the pot life you need.

- M:** Metals
- C:** Composites
- P:** Plastics



No matter your industry, ARALDITE® 2000 Adhesive Core Range products enable greater innovation, performance and sustainability.

Bus & Truck



Marine



Rail



Wind



General Industry



GAIN A PARTNER FOR INNOVATION

Performance MADE POSSIBLE

We offer long-standing development partnerships and tailored technical support in order to help you identify new opportunities and create innovative solutions. Taking a solution-oriented approach, we act quickly to help you achieve your goals, speed up rollout and reduce maintenance over the long-term.

↑ **90%** Predict outcomes with up to 90% success

High-quality products backed up with technical support

SIMULATION

Predict outcomes with a 90% success using detailed property characterization to support your application simulations.



TESTING

Speed up your qualification process with reliable testing from an independent and ISO-certified laboratory.



PROCESSING

Optimize the cost and efficiency of your processes by ensuring that materials fit your needs.



MAKE YOUR IDEAS A REALITY

Tomorrow
MADE POSSIBLE

CASE 1:

DURABILITY FOR THE LONG HAUL

In the assembly of tractor trailers, ARALDITE® 2053 adhesive helps maintain the physical integrity of large panels by uniformly distributing stress over bonded areas. With no need for drilling, the panels can be finished with a smooth, clean and attractive appearance.

Along with minimal need for pre-treatment of bonded surfaces, ARALDITE® 2053 adhesive offers an optimal open time, which enables a faster production cycle time and increased throughput. With an elongation rate of more than 50%, the resulting bond is durable and reliable, reducing your warranty claims and maintenance demands.

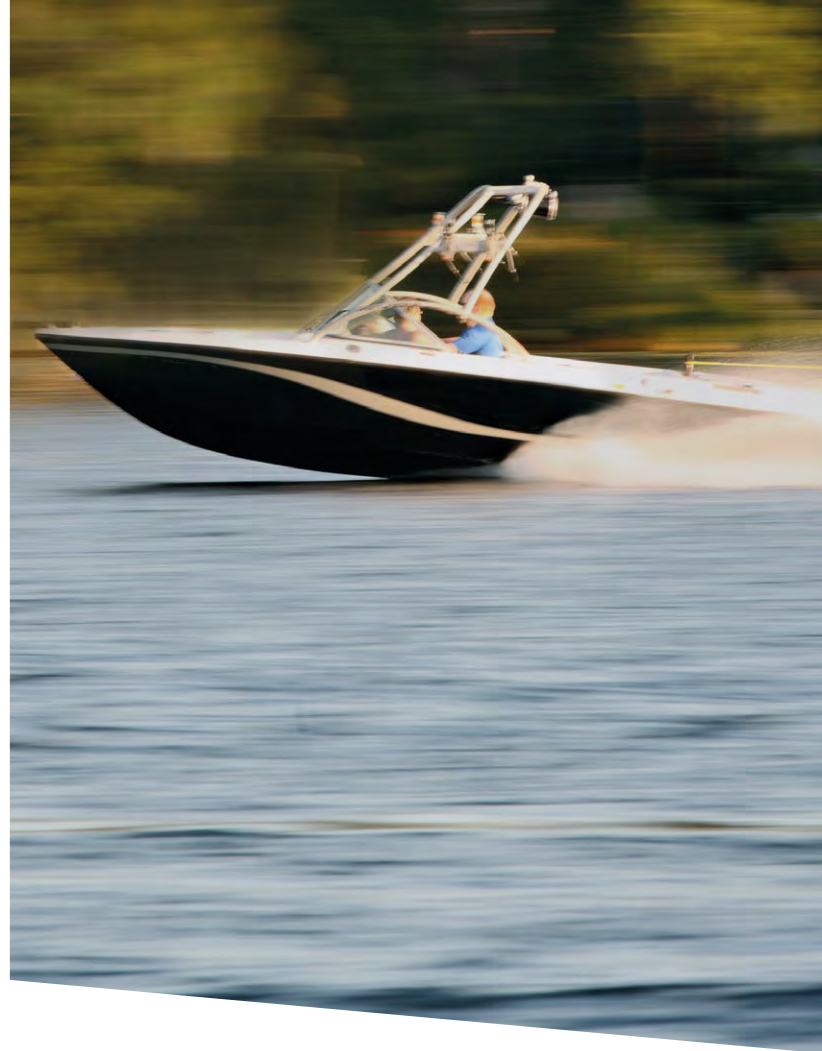


CASE 2:

READY FOR HIGH SPEEDS ON THE WATER

Withstanding cruise speeds up to 62 mph, ARALDITE® 2015-1 adhesive is an effective solution for high-performance speedboats. Qualified to meet Lloyd's Register specifications, ARALDITE® 2015-1 adhesive allows you to quickly create bonds that last, reducing maintenance costs over the long-term.

With no need for primer, this non-sag adhesive simplifies and expedites the production process. A long open time makes ARALDITE® 2015-1 adhesive a cost-effective solution for bonding mid-sized to large metal and composite parts, including hull-to-deck bonding.



CASE 3:

STURDY BONDS FOR STANDOUT DESIGN

In customer trials, the ARALDITE® 2028-1 adhesive has proven to be the best adhesive able to ensure 100% water- and dust-tight LED pottings behind touch pad keys that will be exposed to tough conditions.

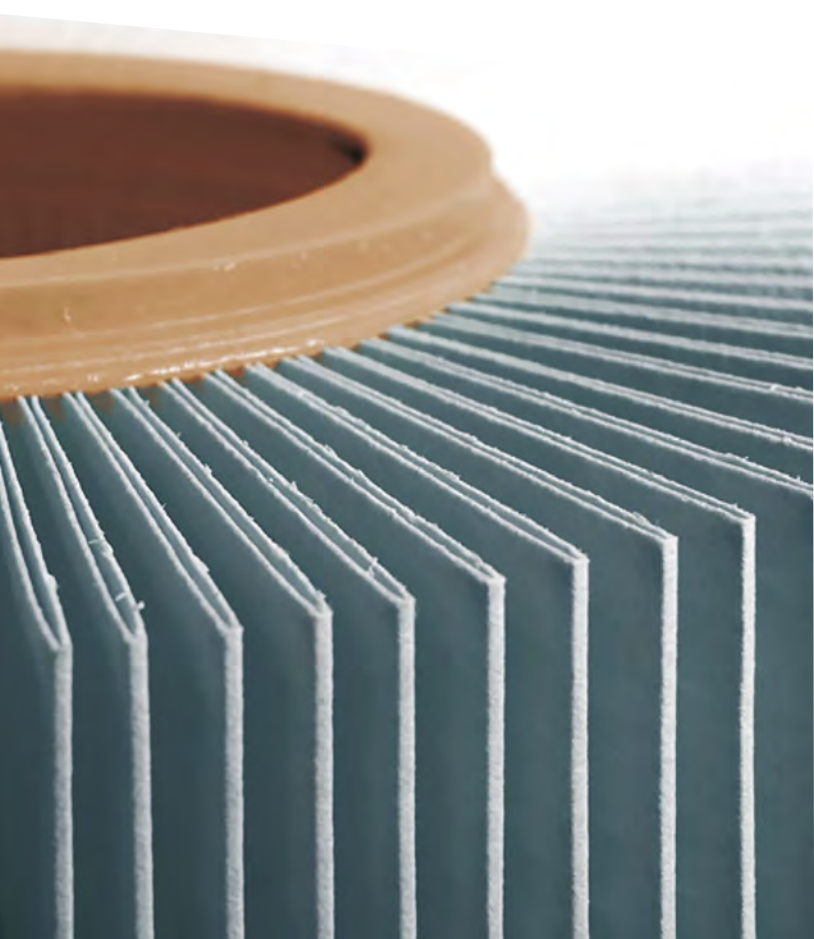
With no need for a vacuum process, this non-foaming adhesive is easy to apply, enabling a fast and highly efficient production cycle. The result is an end product with perfect transparency, allowing LEDs to display multiple colors.

CASE 4:

PRECISE AND EASY PROCESSABILITY

With the non-sag ARALDITE® 2014 adhesive, bonding filter media to end caps is simplified. The cartridge format makes it easy to make precisely positioned bonds while the low shrinkage rate allows for tight tolerances.

With good adhesion to various substrates, ARALDITE® 2014 adhesive is ideal for bonding dissimilar materials. Curing at room temperature, a reliable and long-lasting bond is created with resistance to hydraulic oils and temperatures up to 284°F.



CASE 5:

FAST ASSEMBLY IN EXTREME CONDITIONS

Approved for a variety of wind blade applications, including bonding internal structure add-ons such as sensors, the versatile ARALDITE® 2051 adhesive offers outstanding adhesion on dissimilar substrates with virtually no need for surface preparation.

With the power to bond in harsh outdoor conditions, combined with a high lap shear strength, this adhesive is perfectly suited to bond small interior parts.

Thanks to its reliable, long-term bonding capability, ARALDITE® 2051 adhesive can help reduce maintenance costs by up to 70% over time.



ARALDITE® 2000 ADHESIVE CORE RANGE

PERFORMANCE DATA

| Adhesive | Chemistry | Color | Mixed Viscosity at RT | Pot life | Fixture time* | Processing temperature | Max operating temperature** | Elongation at break | Tensile modulus |
|---------------------------------------|--------------|-------------|-----------------------|-----------|---------------|------------------------|-----------------------------|---------------------|-----------------|
| Unit | | | (cP) | mins | mins | °F | °F | % | psi |
| ARALDITE®2011 | Epoxy | Pale yellow | 30,000 - 45,000 | 100 | 420 | 50 - 104 | 194 | 9 | 275,571 |
| ARALDITE® 2012 | Epoxy | Yellow | 25,000 - 35,000 | 6 | 20 | 50 - 104 | 158 | 4 | 362,595 |
| ARALDITE® 2014 | Epoxy | Dark gray | Thixotropic | 40 | 180 | 50 - 104 | 284 | 1 | 631,475 |
| ARALDITE® 2015-1 | Epoxy | Beige | Thixotropic | 45 | 240 | 50 - 104 | 212 | 4 | 232,060 |
| ARALDITE® 2019 (AW 4859 / HW 4859) | Epoxy | Black | Thixotropic | 100 - 120 | 270 | 50 - 104 | 284 | 4.3 | 232,060 |
| ARALDITE® 2031-1 | Epoxy | Black | Thixotropic | 60 | 180 | 50 - 104 | 212 | 12 | 145,038 |
| ARALDITE® 2051 | Acrylic | Pale yellow | Thixotropic | 5 | 15 | 32 - 50 | 248 | 10 | 246,564 |
| ARALDITE® 2053 - 05/15 | Acrylic | Dark gray | Thixotropic | 5/15 | 15/30 | 50 - 104 | 176-212 | >50 | 101,526 |
| ARALDITE® 2028-1 | Polyurethane | Transparent | 10,000 | 6 | 30 | 50 - 104 | 122 | 60 | 2,320 |

Registered for
REACH

All ARALDITE® 2000 Adhesive Core Range products are REACH compliant

* Time to reach a lap shear strength of 145 psi

** For the maximum continuous operating temperature, we consider the maximum temperature for which the residual lap shear strength is 1/3 of the lap shear strength at room temperature or the temperature for which the residual lap shear strength is 725 psi.

ADHERENCE TO SPECIFIC SUBSTRATES

| Adhesive | Metals | | | | | | | Thermosets composites | | | | Thermoplastics | | | | | Various substrates | | | |
|---------------------------------------|------------|-----------------|------------------|----------|--------|------|---------|-----------------------|----------|------|-----|----------------|----|---------------|----|------|--------------------|-------|--------|------|
| | Mild steel | Stainless steel | Galvanized steel | Aluminum | Copper | Bras | Ferrite | GRP (UF) | GRP (EP) | CFRP | SMC | PVC | PA | ABS, ASA, SAN | PC | PMMA | Ceramic | Glass | Rubber | Wood |
| ARALDITE®2011 | •• | •• | •• | •• | •• | •• | • | •• | •• | •• | • | | • | •• | • | | •• | •• | •• | •• |
| ARALDITE® 2012 | •• | •• | | •• | •• | •• | • | •• | •• | •• | • | • | | • | • | | •• | •• | | •• |
| ARALDITE® 2014 | •• | •• | | •• | •• | •• | • | •• | •• | • | • | • | | • | | | • | •• | • | •• |
| ARALDITE® 2015-1 | •• | •• | • | •• | •• | •• | • | •• | •• | •• | • | • | | • | • | • | | •• | • | •• |
| ARALDITE® 2019 (AW 4859 / HW 4859) | •• | •• | •• | •• | •• | •• | • | •• | •• | •• | •• | •• | | • | • | • | •• | •• | | •• |
| ARALDITE® 2031-1 | •• | •• | •• | •• | •• | •• | • | •• | •• | •• | •• | | • | • | | | •• | •• | • | •• |
| ARALDITE® 2051 | •• | •• | •• | •• | • | • | •• | •• | •• | •• | • | •• | | •• | •• | •• | •• | • | | • |
| ARALDITE® 2053 - 05/15 | •• | •• | | •• | •• | •• | •• | •• | •• | •• | • | •• | | •• | • | •• | •• | •• | | |
| ARALDITE® 2028-1 | • | • | • | • | | | | •• | •• | •• | •• | •• | • | •• | •• | • | • | •• | • | • |

- Good
- Excellent



PRODUCT APPEARANCE AND VISCOSITY

| ARALDITE® 2011 | ARALDITE® 2012 | ARALDITE® 2014 | ARALDITE® 2015-1 | ARALDITE® 2019* | ARALDITE® 2031-1 | ARALDITE® 2051 | ARALDITE® 2053-05/15 | ARALDITE® 2028-1 |
|---|---|---|---|---|--|---|---|---|
|  |  |  |  |  |  |  |  |  |

* Former name ARALDITE® AW 4859 / HW 4859

Huntsman Advanced Materials

At Huntsman Advanced Materials, we make things possible. Serving many of the world's leading businesses across virtually every industry, we enable greater innovation, performance and sustainability to address global engineering challenges and contribute towards a better quality of life.

Our capabilities in high-performance adhesives and composites, delivered by more than 1,600 associates, support over 2,000 global customers with innovative, tailor-made solutions and more than 1,500 pioneering epoxy, acrylic, phenolic and polyurethane-based polymer products.

We operate synthesis, formulating and production facilities around the world



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