Advanced Materials

HUNTSMAN

Enriching lives through innovation

# LOW ODOR AND HIGH PERFORMANCE WITH NONE OF THE COMPROMISE

ARALDITE® 2080 adhesive

**A low odor, non-flammable, and primer-free acrylate adhesive with exceptional bond performance and a low toxicity profile.**



MADE POSSIBLE



# A UNIQUE STRUCTURAL ADHESIVE THAT SAFEGUARDS USER WELLBEING

To deliver high quality products as profitably as possible, it's essential that you use a structural adhesive that enhances productivity and delivers long-lasting, reliable results. But that's not all – as a responsible employer it's also crucial that you safeguard the wellbeing and health of your employees.

Until now, manufacturing specialists like you across the Transportation, Wind, and General Assembly industries have been limited to Methyl Methacrylate (MMA) and Polyurethane (PU) adhesives, among others, that have significant drawbacks. For example, MMA adhesives are well-known for their aggressive odor and flammability, while some PU adhesives have a higher toxicity profile and require surface preparation.

## INTRODUCING THE NEW ARALDITE® 2080 ADHESIVE

ARALDITE® 2080 adhesive is a new structural acrylate adhesive that creates the perfect high-strength and high-elongation bond with outstanding stress and impact resistance and fast reactivity times.

Most importantly, unlike many other structural adhesive on the market, ARALDITE® 2080 adhesive also provides an effective solution to the multiple problems of MMA and PU products, with zero compromise on performance.

**90%** Reduce odor by up to 90% compared to traditional MMA products

**2x** Faster to apply and reach the final bond strength than a PU

**Low odor** – with up to 90% less smell than MMA products, ARALDITE® 2080 adhesive helps you to increase end-customer and employee wellbeing and satisfaction, especially in enclosed working environments.

**Non-flammable classification*** – unlike traditional MMA products, ARALDITE® 2080 adhesive helps to minimize costs for safety training, storage, transportation, and equipment. In addition, it eliminates the need for the installation and maintenance of designated flammable storage areas.

**No primer** – ARALDITE® 2080 adhesive does not need a primer, as used by PU and Epoxy products, which reduces application time by half and lowers costs, while providing the same bonding strength.

**Low toxicity profile** – ARALDITE® 2080 adhesive has an improved GHS classification, which means you will save on personal protective equipment costs and other risk management measures.

Our new structural adhesives come in three versions depending on your production requirements:

**ARALDITE® 2080-5 & 2080-15 adhesive**
– for metal, composites and some plastics, with good temperature resistance

**ARALDITE® 2081-10 adhesive (coming soon)**
– specially designed for plastics

*According to CLP: Flashpoint >60°C



CASE 1:

# BONDING INSIDE WIND TURBINE BLADE ADD-ONS

## Increase worker well-being and EHS standards by reducing the odor inside the blade

Traditionally, wind turbine manufacturers and maintenance specialists had to use MMA or PU adhesives when bonding add-ons on wind blade composite internal structures. However, both the strong smell of MMA adhesives and the toxicity of PU adhesives resulted in significant issues regarding worker well-being and health, respectively.

The new ARALDITE® 2080 adhesive has been approved for this specific application, giving a highly versatile, low odor, and low toxicity solution. In addition to this, ARALDITE® 2080 adhesive provides fast snap curing and other similar features to an MMA. With high performance bonding capabilities that are exceptionally reliable over the long term, ARALDITE® 2080 adhesive helps businesses across the global Wind industry to create a safer and healthier working environment for their employees.

### Key benefits

- Fast processing and snap cure
- Good bonding to metal and composite materials
- No odor for areas insight the blade
- Low toxicity





CASE 2:

# BONDING METAL AND COMPOSITE STUDS AND STRUCTURES

## A low odor, non-flammable alternative to traditional MMA adhesives

Often in the Transportation, Oil and Gas, and Marine industries, it is necessary to bond metal and composite studs to a metal or composite structure. Previously, the only option was to use an MMA adhesive. However, as these studs are mainly bonded in closed spaces, such as inside a compartment of the vessel itself, the overpowering smell was a serious issue for worker well-being.

The new ARALDITE® 2080 adhesive gives the perfect solution by providing the strength of an MMA without the odor. In addition, with its non-flammable properties, ARALDITE® 2080 adhesive also helps to minimize costs for safety, training, storage, transportation, and equipment, and eliminates the need for the installation and maintenance of designated flammable storage areas.

As a result, ARALDITE® 2080 adhesive increases profitability and workers can easily handle the product in a closed environment with no concerns for their safety, health, or the environment.

### Key benefits

- Low odor for use in closed spaces
- No flammable label
- No exploding man label

CASE 3:

# BONDING PANELS, FLOORS, AND ROOF PARTS IN BUSES

## Get the perfect balance of low odor, elongation, and strength

For workers on the assembly line, using MMA adhesives to bond floors, roofing, and panels on buses is not a pleasant process.

The odor of MMA products is overbearing and often the task is conducted in small spaces, which only makes the problem worse.

The ability to bond dissimilar substrates without enduring the odor of an MMA makes ARALDITE® 2080 adhesive the perfect solution.

In addition, ARALDITE® 2080 adhesive's limited surface pre-treatment and optimal open time reduces production cycle times, and with an elongation rate of more than 50%, users can be sure that the resulting bond meets all needs for durability and reliability.

### Key benefits

- Exceptional bonding for dissimilar substrates
- Low odor compared to MMA products
- Elongation rate of more than 50%
- Limited pre-treatment and optimal open time






CASE 4:

# BONDING CHANNEL LETTER SIGNAGE WITH SAFETY AND RELIABILITY

## Increase production throughput without impacting user wellbeing

The production of channel letter signage or sign boxes is usually done in enclosed facilities, requiring adhesive products such as MMA that create a very unpleasant smell. As the process can take several hours to complete, this can be a serious problem for the well-being of workers, who often require more breaks – and therefore are less productive.

The new ARALDITE® 2080 adhesive minimizes odor while still providing the same durability and bonding strength as MMA products. Not only does this increase worker productivity and well-being, but it also produces a highly reliable structural integrity that is ideal for sign manufacturing of any size.

### Key benefits

- Exceptional bonding performance
- Greater workplace productivity
- Low odor compared to MMA products

## WHAT MAKES ARALDITE® 2080 ADHESIVE DIFFERENT?

ARALDITE® 2080 structural acrylic adhesive uniquely combines **high strength**, **high durability** and **high elongation** for metals, composites and some plastics, while offering a **low odor** and **non-flammable profile**. It is available in both short and long open times to best suit your application needs.

### SUPERIOR PERFORMANCE

**5-15 mins**

Pot life at room temperature

**90 °C**

Maximum continuous operating temperature*

**> 18 MPa**

After cataplasma aging test**

**> 25 MPa**

Tensile strength

**> 50%**

Elongation at break

**15-30 mins**

Fixture time at room temperature

**> 1,200 MPa**

Tensile modulus

### IMPROVED PRODUCTIVITY

**↑ 50%**

Up to 50% faster process and no additional primer costs

### TECHNOLOGY

Two-component acrylic

**50%**

50% improved GHS classification than with PU products



Low odor



Non-flammable



No primer



Less toxicity

*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 ≤ 5 MPa.
**after 7-days ISO 9142 E2

# ↓90%

Reduce odor by up to 90% compared to traditional MMA products




With our Material Models, you get fast and accurate simulations when qualifying adhesives for your project. Click to choose your product.

**ARALDITE® 2080-5 adhesive**

**ARALDITE® 2080-15 adhesive**

# MADE POSSIBLE

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Enriching lives through innovation

**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 1600 associates, support over 2000 global customers with innovative, tailor-made solutions and more than 1500 pioneering epoxy, acrylic, phenolic and polyurethane-based polymer products.

## We operate synthesis, formulating and production facilities around the world



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