

DIY Adhesives

Araldite® Crystal

Two component clear epoxy adhesive

Other commercial names

- Araldite® Cristal
- Araldite® Rapid Ceramic & Glass
- Araldite® Rapid (Scandinavia)

Key properties

- Fast curing at room temperature
- Transparent / colour free
- 1:1 mixing ratio
- Solvent free

Description

Araldite® Crystal is a transparent two part liquid epoxy adhesive suitable for bonding a wide range of substrates including metals, composites, ceramics and many plastics.

Product data

Property	Araldite® Crystal Resin	Araldite® Crystal Hardener	Araldite® Crystal mixed
Colour (visual)	colourless transparent	almost colourless	transparent
Specific gravity	1.15	1.16	1.16
Viscosity at 25°C (Pas)	18 - 45	15 - 35	ca 30
Pot Life (100 g at 25°C)	-	-	ca. 5 mins

Processing

Pretreatment

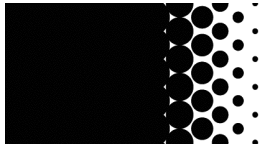
The strength and durability of a bonded joint are dependant on proper treatment of the surfaces to be bonded.

At the very least, joint surfaces should be cleaned with a good degreasing agent such as acetone, iso-propanol (for plastics) or proprietary degreasing agent in order to remove all traces of oil, grease and dirt.

Low grade alcohol, gasoline (petrol) or paint thinners should never be used.

The strongest and most durable joints are obtained by either mechanically abrading or chemically etching ("pickling") the degreased surfaces. Abrading should be followed by a second degreasing treatment

Mix ratio	Parts by weight	Parts by volume
Araldite® Crystal Resin	100	100
Araldite® Crystal Hardener	100	100



Application of adhesive

The resin/hardener mix is applied directly or with a spatula to the pretreated and dry joint surfaces.

A layer of adhesive 0.05 to 0.10 mm thick will normally impart the greatest lap shear strength to the joint. Huntsman stresses that proper adhesive joint design is also critical for a durable bond. The joint components should be assembled and secured in a fix position as soon as the adhesive has been applied.

Equipment maintenance

All tools should be cleaned with hot water and soap before adhesives residues have had time to cure. The removal of cured residues is a difficult and time-consuming operation.

If solvents such as acetone are used for cleaning, operatives should take the appropriate precautions and, in addition, avoid skin and eye contact.

Times to minimum shear strength

Temperature	°C	23
Cure time to reach	hours	
LSS > 1MPa	minutes	20
Cure time to reach	hours	
LSS > 10MPa	minutes	60

LSS = Lap shear strength.

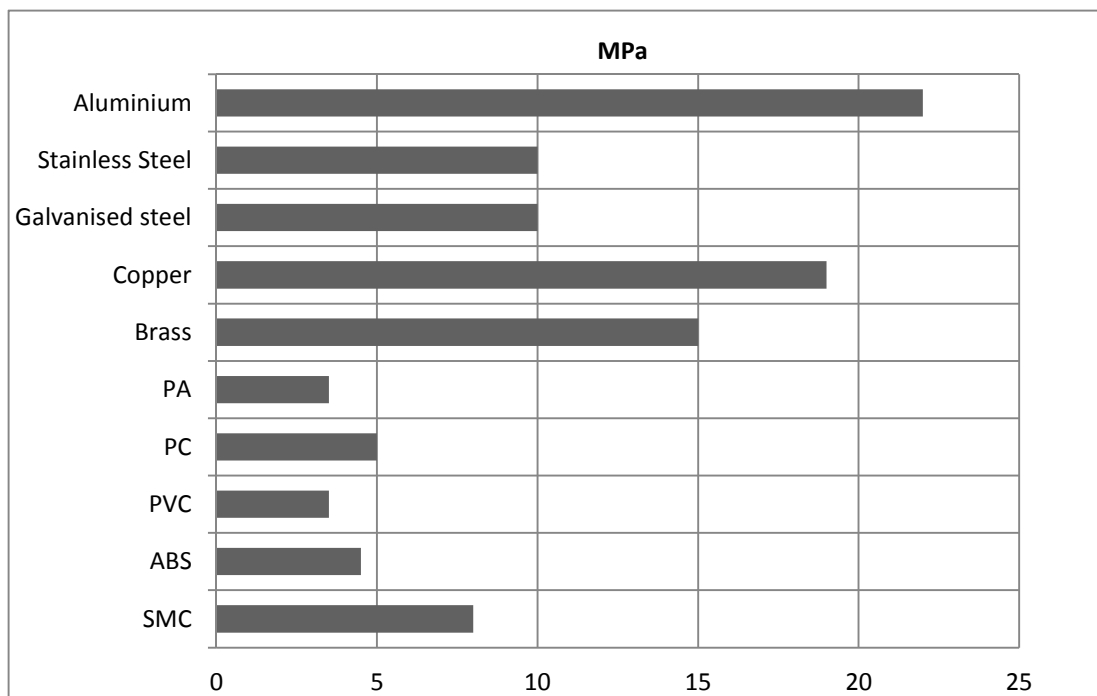
Typical cured properties

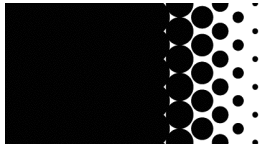
Average lap shear strengths of typical joints (ISO 4587)

Cured for 16 hours at 40°C for the metals and 7 days at 23°C for the plastics

Tested at 23°C.

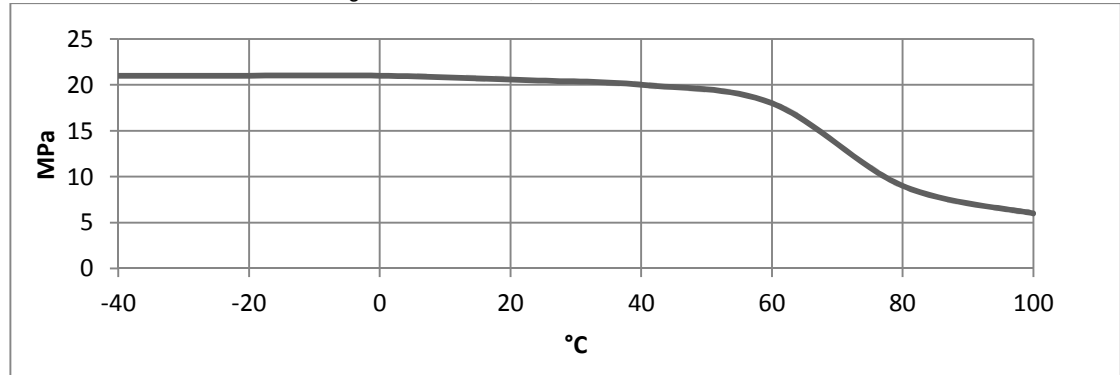
Pre-treatment: plastics abraded and degreased, metals sandblasted and degreased.





Lap shear strength versus temperature (ISO 4587) (typical average values)

Carried out on sandblasted and degreased aluminium, cure 16 hours at 40°C



Storage

Araldite® Crystal may be stored for up to 3 years at room temperature provided the components are stored in sealed containers.

Handling precautions

Caution

Our products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleaned at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. These precautions are described in greater detail in the Material Safety Data sheets for the individual products and should be referred to for fuller information.

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