HUNTSMAN
Enriching lives through innovation

Advanced Materials

LME 11897 / LME 11898 (ARALDITE® 2020-1)

Structural Adhesives

PROVISIONAL TECHNICAL DATA SHEET

Two-component clear epoxy adhesive system

Key properties

- **Low viscosity, colourless transparent adhesive**
- **Especially suitable for glass and ceramic bonding**
- **Suitable for clear castings and laminates**
- **Refractive index similar to glass**

Description

LME 11897 / LME 11898 is a two-component, room-temperature curing, low-viscosity adhesive designed for glass bonding and applications requiring a transparent adhesive.
It is also suitable for bonding a wide variety of metals, ceramics, rubbers, rigid plastics and many other materials in common use, and may be used for small castings (potting).

Product data

	LME 11897	LME 11898	Mixed adhesive
Appearance, visual	Transparent, colourless	Transparent, colourless	Transparent, colourless
Specific gravity	ca. 1.12	ca. 0.95	ca. 1.1
Viscosity at 25°C (mPas)	*120 - 220*	*150 - 250*	ca. 300
Pot life (100g at 23°C)	-	-	ca. 160 minutes
Refractive index	-	-	ca. 1.50

Data in this document shows 'typical' values and is given for information purposes only. Data values are not guaranteed or warranted unless specifically mentioned.

Processing

Pretreatment

The strength and durability of a bonded joint are dependent on proper pretreatment of the surfaces to be bonded. At the very least, joint surfaces should be cleaned with a good degreasing agent such as methoxy propanol, acetone or other proprietary degreasing agents 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
LME 11897	100	100
LME 11898	28	33

Resin and hardener should be blended until they form a homogeneous mix.

Application of adhesive

The resin/hardener mix may be applied manually or using automated application to pretreated surfaces ready for bonding. Huntsman's technical support group can advise further on surface pre-treatments as well as suitable application methods and dispensing equipment.

An adhesive bond thickness of 0.1 to 0.30 mm will typically impart the greatest lap shear strength to a joint. Proper adhesive joint design and surface preparation is critical to produce a durable bond. The bonded components should be assembled and held in a fixed position as soon as the adhesive has been applied, at least until the handling strength is reached (handling strength considered as 1MPa lap shear strength – see table below).

For more information regarding surface preparation and pretreatment, adhesive joint design, dispensing systems and adhesive properties, visit www.aralditeadhesives.com and download the Technical Guide for ARALDITE® Adhesives.

Equipment maintenance

Tools should be cleaned using a suitable solvent, such as methoxy propanol or acetone, before adhesive residues have had time to cure. Removal of cured residues with solvents is not possible, and mechanical abrasion must be used.

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

Typical times to minimum shear strength

Temperature	°C	10	15	23	40	60	100
Cure time to reach	hours	28	25	16	4	-	-
LSS > 1N/mm^2	minutes	-	-	-	-	70	8
Cure time to reach	hours	68	42	25	9	2	-
LSS > 10N/mm^2	minutes	-	-	-	-	-	15

LSS = Lap shear strength.

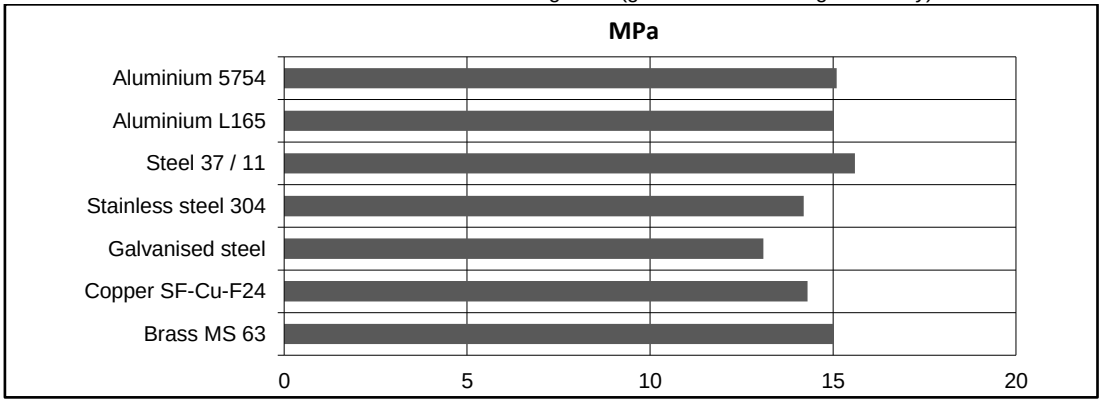
Note – There is a risk of exotherm when casting the product in bulk or in thick sections (>1cm). This should be assessed before proceeding.

Typical cured properties

The data shown below is provided solely as technical information and do not constitute a product specification. Unless otherwise stated, the figures given below were determined by testing standard specimens made by lap-jointing 100 x 25 x 1.6 mm strips of sandblasted aluminium alloy. The bond area was 12.5 x 25 mm, with bonded specimens cured under light clamping pressure. Lap shear testing was carried out at 23°C at 10mm/min unless indicated otherwise.

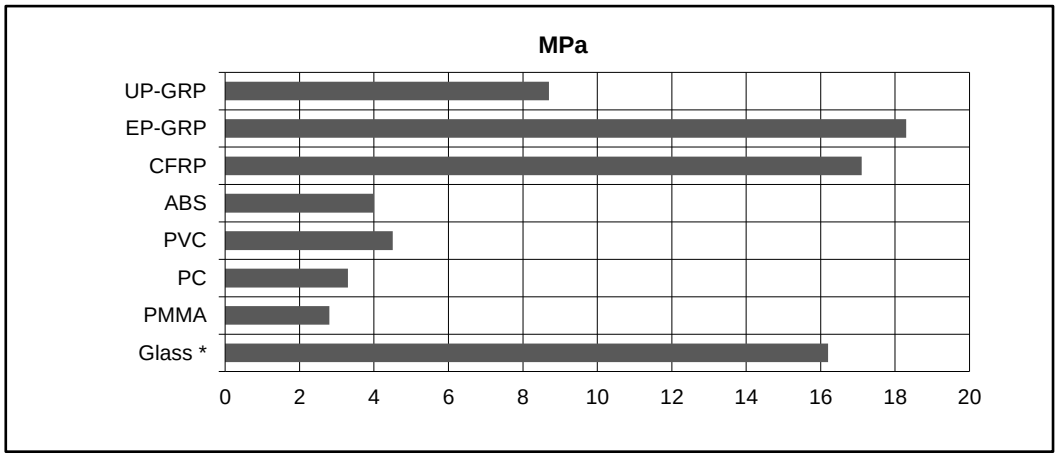
Average lap shear strengths of typical metal-to-metal joints (ISO 4587; typical average values)

Cured 16 hours at 40°C. Pretreatment: sandblast + degrease (galvanised steel: degrease only).



Average lap shear strengths of typical joints – other materials (ISO 4587; typical average values)

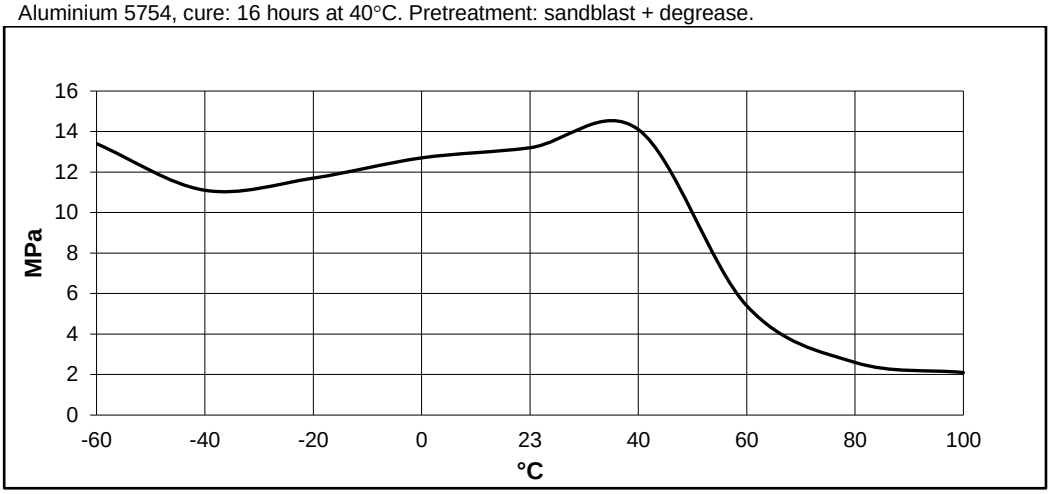
Cured 16 hours at 40°C. Pretreatment: light abrasion + degrease.



** Lap-bonded glass specimens tested in compression mode*

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

Aluminium 5754, cure: 16 hours at 40°C. Pretreatment: sandblast + degrease.



Tensile Properties (ISO 527) Cure 16 hours at 40ºC, tested at 23ºC (typical average values)

Tensile strength	55 MPa
Tensile modulus	2170 MPa
Elongation at break	11.9 %

Flexural Properties (ISO 178) Cure 16 hours at 40ºC, tested at 23ºC (typical average values)

Flexural strength	70 MPa
Flexural modulus	2320 MPa

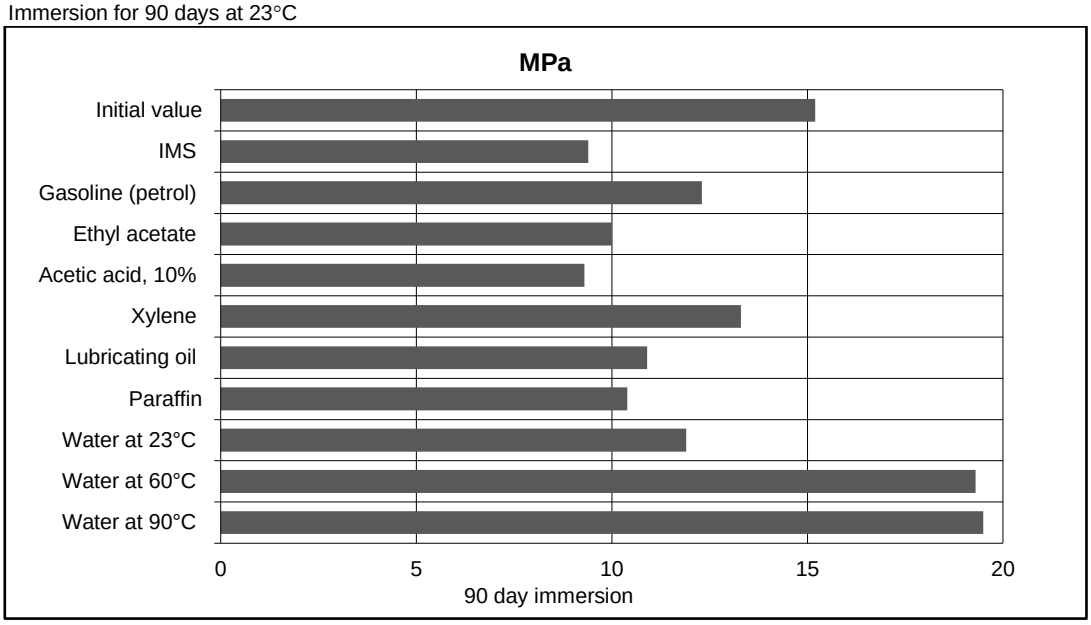
DMA (Dynamic Mechanical Analysis ISO 6721) Cure 16 hours at 40°C (typical average values)

Tg midpoint	53°C

Lap shear strength versus immersion in various media (ISO 4587; typical average values)

Aluminium 5754, cured 16 hours at 40°C and tested at 23°C. Pretreatment: sandblast + degrease

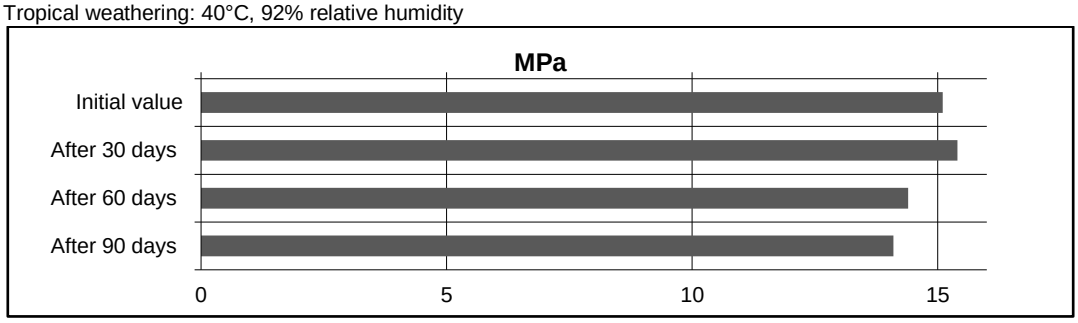
Immersion for 90 days at 23°C



Lap shear strength versus tropical weathering (DIN 50015; typical average values)

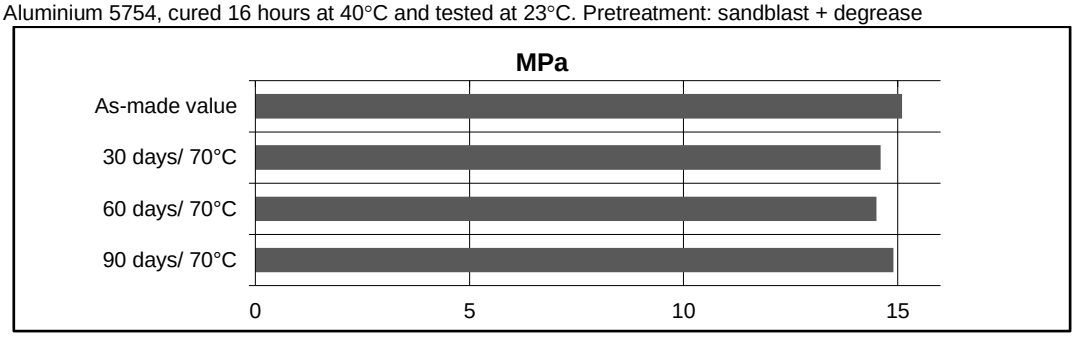
Aluminium 5754, cured 16 hours at 40°C and tested at 23°C. Pretreatment: sandblast + degrease

Tropical weathering: 40°C, 92% relative humidity



Lap shear strength versus heat ageing at 70°C (ISO 4587; typical average values)

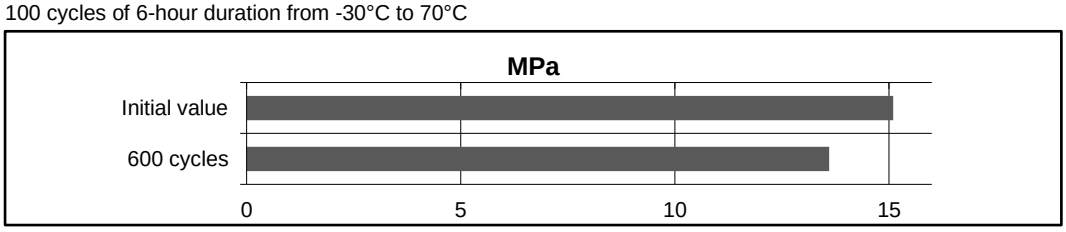
Aluminium 5754, cured 16 hours at 40°C and tested at 23°C. Pretreatment: sandblast + degrease



Lap shear strength versus thermal cycling (ISO 4587; typical average values)

Aluminium 5754, cured 16 hours at 40°C and tested at 23°C. Pretreatment: sandblast + degrease

100 cycles of 6-hour duration from -30°C to 70°C



Storage

LME 11897 / LME 11898 should be stored at room temperature in the original sealed containers, kept in a dry place protected from extremes of temperature and strong sunlight. The expiry date is indicated on the labels.

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 cleansed 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.

Huntsman Advanced Materials warrants only that its products meet the specifications agreed with the user. Specified data are analysed on a regular basis. Data which is described in this document as 'typical' or 'guideline' is not analysed on a regular basis and is given for information purposes only. Data values are not guaranteed or warranted unless if specifically mentioned. The manufacture of materials is the subject of granted patents and patent applications; freedom to operate patented processes is not implied by this publication.

While all the information and recommendations in this publication are, to the best of Huntsman Advanced Material's knowledge, information and belief, accurate at the date of publication, **nothing herein is to be construed as a warranty, whether express or implied, including but without limitation, as to merchantability or fitness for a particular purpose**. **In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any product for its own particular purpose.**

The behaviour of the products referred to in this publication in manufacturing processes and their suitability in any given end-use environment are dependent upon various conditions such as chemical compatibility, temperature, and other variables, which are not known to Huntsman Advanced Materials. It is the responsibility of the user to evaluate the manufacturing circumstances and the final product under actual end-use requirements and to adequately advise and warn purchasers and users thereof.

Products may be toxic and require special precautions in handling. The user should obtain Safety Data Sheets from Huntsman Advanced Materials containing detailed information on toxicity, together with proper shipping, handling and storage procedures, and should comply with all applicable safety and environmental standards.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent on manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

Except where explicitly agreed otherwise, the sale of products referred to in this publication is subject to the general terms and conditions of sale of Huntsman Advanced Materials LLC or of its affiliated companies including without limitation, Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., Huntsman Advanced Materials (UAE) FZE, Huntsman Advanced Materials (Guangdong) Company Limited, and Huntsman Advanced Materials (Hong Kong) Ltd.

Huntsman Advanced Materials is an international business unit of Huntsman Corporation. Huntsman Advanced Materials trades through Huntsman affiliated companies in different countries including but not limited to Huntsman Advanced Materials LLC in the USA and Huntsman Advanced Materials (Europe) BVBA in Europe.

All trademarks mentioned are either property of or licensed to Huntsman Corporation or an affiliate thereof in one or more, but not all, countries.

Copyright © 2025 Huntsman Corporation or an affiliate thereof. All rights reserved

Huntsman Advanced Materials (Switzerland) GmbH
Klybeckstrasse 200
CH - 4057 Basel
Switzerland

Tel: +41 (0)61 299 11 11
Fax: +41 (0)61 299 11 12

www.araldite adhesives.com