

Araldite[®] CV 5745

Filled one-component insulating paste

General

Araldite CV 5745 is a solvent-free, non-running paste, for processing at room temperature or slightly raised temperatures and cure at higher temperatures.

Applications

Magnet cores for coils and transformers

Benefits

Good adhesion, even to slightly oily metal surfaces
Good resistance to water and salt spray

Araldite CV 5745 is an easy to handle single component that remains stable for three months at room temperature. This fast-curing product provides superior adhesion as well as good environmental resistance. Araldite CV 5745 is a no-slump paste, which facilitates exact placement and keeps the production line contamination-free.

Typical Properties***Araldite CV 5745**

Viscosity @ 25°C, cPs	
Spindle # 7 @ 20rpm	120,000 – 320,000
Tensile strength, psi	1,500 max
Specific gravity, g/cm ³	1.45
Flash point, °C	> 93
Press flow, g	10
Run off, mm	
2mm layer at 140°C	0
1 mm layer at 200°C	0
As supplied form	Black paste
Shelf life, at 10°C	6 months

* Typical properties are based on Huntsman's test methods. Copies are available upon request.

Packaging & Storage

Araldite CV 5745 US should be stored in a dry place and in the tightly closed original containers. Shelf life, under these conditions, will be 3 months at 23°C, or 6 months at 10°C. Contact Customer Service for packaging information.

Processing

The special composition of this insulating paste produces good adhesion, even on slightly oily metal surfaces.

Optimal bonding strength, however, is obtained when the contact surfaces are degreased, mechanically abraded or chemically pretreated.

For small applications, the paste is best applied with a spatula. A bond line thickness of 0.05-0.15mm will produce the best tensile shear strength.

After applying the insulating paste, the components are assembled and clamped together. Even contact pressure suffices to ensure proper cure.

Commercially available application guns or automatic metering pumps are suitable for large-scale processing of Araldite® CV 5745 US.

Pre-cure

Minimal pre-cure times, min	
@ 140°C	6 – 7
@ 160°C	3 – 4

Pre-cured bond lines are touch-dry and may be adjusted at room temperature.

Cure conditions		<u>90% cure (DTA)</u>	<u>Optimal cure</u>
	Minimal cure times, min		
	@ 120°C	25 – 30	90 – 120
	@ 140°C	8 – 12	40 – 50
	@ 160°C	4 – 6	20 – 25
	@ 180°C	2 – 3	10 – 15

Important: The time required to heat joints is not included in this table. At cure temperatures exceeding 180°C exothermic reactions might occur in adhesive layers over 2mm thick.

Cleaning Tools are best cleaned with hot water and liquid soap, before Araldite CV 5745 has 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, operators should take the appropriate precautions and, in addition, avoid soiling their hands.

**Physical Properties
(typical values)**

Hardness, Shore D 85
Thermal conductivity, Cal/sec.cm.°C 6.5×10^{-4}

Tensile shear, N/mm (lb./in.)
Cured 180°C @ 30 min., various substrates at 23°C

Anticordal B	33(188)
37.11 Steel	27(154)
37.11 Steel (oiled, after 30 min storage at 240°C)	130(120)

Tensile shear, N/mm (lb./in.)
Cured 180°C @ 30 min, oily 37.11 sheet steel at various test temperatures

-40°C	19 (108)
0°C	19 (108)
40°C	19 (108)
80°C	18 (103)
100°C	13 (74)
120°C	5 (29)
140°C	3 (17)
160°C	2 (11)

Cataplasma test, N/mm² (lb./in.²)
Oily 37.11 sheet steel samples cured at 180°C, 30 minutes, tested at 23°C
Cured tensile shear specimens were alternately conditioned for 12 h at 80°C/100% r.h.
and for 12 hours at 15-30°C

after 7 days	19 (2756)
after 30 days	17 (2466)
after 60 days	16 (2321)
after 90 days	14 (2030)

Coefficient of thermal expansion, in/in/°C

20 – 60°C	Alpha 1	57×10^{-6}
20 – 100°C	Alpha 2	68×10^{-6}

Bending test

Test specimen: Oiled 0.6mm thick 37.11 sheet steel, joint thickness 0.3mm

Cure	180°C @ 30 min + 240°C @ 20 min
Test	at -40°C, bent round a 40 Ø mandrel
Results	isolated hair cracks, no spalling

T -peel test

Test specimen: Oiled 0.5mm thick 37.11 sheet steel, joint thickness 0.3mm

Cure	180°C @ 30 min
Test	DIN 53289
Results	3 – 4 N/mm (17 – 23 psi)

Salt spray test (tensile shear strength on oiled steel)

As-made value	20 N/mm ² (2,900 psi)
After 30 days	15 N/mm ² (2,175 psi)

Electrical Properties (typical values)	Surface Resistivity, Ωcm^2	2.8×10^{15}
	Volume Resistivity, Ωcm	5.1×10^{16}
	Dielectric Strength, V/mil	530
	Dielectric Constant @ 50 Hz	4.8

Handling/Safety Precautions Do not handle or use until the Material Safety Data Sheets have been read and understood.

Araldite CV 5745
Danger! Causes severe skin irritation. Causes eye irritation. May cause skin burns and allergic skin reaction. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.

First Aid **In case of contact:**

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Discard contaminated shoes and other articles made of leather.

Eyes: Immediately flush with water for at least 15 minutes. Call a physician.

Ingestion: If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

Inhalation: Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Other: Referral to physician is recommended if there is any question about the seriousness of an injury

Important

The following shall supersede any provision in Buyer's forms, letters and papers. **THERE IS NO WARRANTY OR CONDITION, WHETHER EXPRESS OR IMPLIED BY ANY STATUTE OR OTHERWISE, INCLUDING WARRANTIES AND CONDITIONS OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, FOR THE PRODUCT OR PRODUCTS REFERRED TO HEREIN. TECHNICAL ADVICE FURNISHED BY THE SELLER SHALL NOT CONSTITUTE A WARRANTY OR CONDITION, STATUTORY OR OTHERWISE, WHICH IS EXPRESSLY DISCLAIMED, ALL SUCH ADVICE BEING GIVEN AND ACCEPTED AT BUYER'S RISK.** While the information contained herein is believed to be accurate, Seller makes no representations as to the reliability of the results or as to the results of Buyer or as inducements to infringe any relevant patent, now or hereafter in existence. Testing for intended use is the sole responsibility of Buyer. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended, or for uses for which implantation within the human body is intended. **UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES FROM ALLEGED NEGLIGENCE, BREACH OF WARRANTY OR CONDITION, STRICT LIABILITY OR ANY OTHER LEGAL THEORY, ARISING OUT OF MANUFACTURE, SALE, USE OR HANDLING OF THE PRODUCT OR PRODUCTS REFERRED TO HEREIN.** The sole remedy of Buyer and the sole liability of Seller for any claims shall be limited to Buyer's purchase price of the product(s) which is the subject of the claim or the amount actually paid for such product(s), whichever is less.

Note

Araldite® and Aradur® are registered trademark of Huntsman LLC or an affiliate thereof in one or more countries, but not all countries.

**Huntsman Advanced Materials
Americas Inc.**
281 Fields Lane
Brewster, New York 10509
Tel.: (914) 785-3000
Fax: (914) 785-3472

Araldite CV 5745
November 2004