



**ACTION  
ADHESIVES**

## Technical Data Sheet A4420 Structural Adhesive

### Product Description

A4420 is a two component structural methacrylate adhesive, designed for the high strength bonding of metal and composite applications. A4420 has been formulated from innovative technology, including our revolutionary adhesion system. This unique system enables the A4420 to achieve the ultimate balance of mechanical strength and high impact resistance whilst still remaining both simple and quick to use.

### Typical Applications

A4420 is very versatile, and can bond a wide variety of substrates without the need for surface primers or conditioners. Typical examples shown below:

- Bonding metal fasteners to moulded composite parts.
- Bonding aluminium and stainless steel lettering in the sign manufacturing industry.
- Bonding automotive carbon fibre body panels.
- Bonding GRP and stainless steel in the marine industry.
- Bonding dissimilar metals for trailer fabrication.

### Properties of Uncured Material

Resin	Methyl Methacrylate
Colour	Yellow/White
Appearance	Thixotropic Gel
Viscosity Brookfield T Bar	400,000 to 600,000cps
Cure System	Exothermic
Open Time	7 Minutes @20°C 10g Mass
Handling Strength	12 Minutes @20°C 10g Mass
SG Part A	0.96
SG Part B	0.91

### Performance of Cured Material

ASTM D1002 Lapshear	(Average over 16 tests)
Aluminum	20.4 Nmm <sup>2</sup>
Stainless Steel	38.4 Nmm <sup>2</sup>
Mild Steel	32.8 Nmm <sup>2</sup>
GRP	Substrate Failure
ABS	Substrate Failure
Acrylic	Substrate Failure
ASTM D638 Tensile Strength	Up to 30 Nmm <sup>2</sup>
Gap Fill	4mm
Standard Temperature Range	-55°C to 120°C
Paint Bake Cycle Approval**	20 Minutes @ 220°C
Aluminum lapshear following moist cataplastm 7 days @ 70°C	26.7 MPA

**Action Adhesives (Ireland) Ltd.**

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Peel Strength Aluminium	6 KN/m
Shore Hardness	75 Shore D

## Compatible Substrates\*

Aluminum	Wood
Stainless Steel	Granite
Mild Steel	Marble
UPVC	Urethanes
Polyesters	Vinyl Esters
ABS	Galv/Zinc Coated
Acrylic	Thermoset Plastics
FRP	Gelcoats
GRP	Epoxy laminate

## Instructions For Use

1. Always consult MSDS before using A4420 for the first time.
2. Carry out surface preparation where required. \*
3. Remove cap, and attach mixer nozzle.
4. Dispense sufficient adhesive to ensure equal mix.
5. Apply adhesive to one surface and assemble components carefully, clamping if required.
6. It is always easier to remove any excess adhesive prior to cure using a suitable cleaner \*
7. Allow the adhesive sufficient time to achieve handling strength before moving or unclamping components.

## Curing Cycle

Once mixed at the 1:1 ratio the working time of the A4420 is the period whereby the adhesive remains fluid and is easily transferrable between two or more mating surfaces. Temperature, volume and substrate have a direct effect on the length of this period as the A4420 cures by an exothermic reaction. Higher temperatures and larger volumes speed the reaction causing a reduction in open and cure time. Lower temperatures and smaller volumes slow the reaction time extending both the open time and ultimate full cure time.

## Clean Up

Following dispense any excess adhesive should be removed prior to cure with the appropriate Action Adhesives cleaner.

## Packaging

A4420 is available in 25ml syringes and 50ml, 250ml Universal and 400ml Nylon cartridges for use with a dispensing gun. A4420 is also available in 20 litre pails and 200 litre drums, for use with suitable dispensing systems.

## Storage & Shelflife

A4420 should be stored unopened in suitable hazardous storage conditions for flammable adhesives that are cool, in a dry location and out of direct sunlight. Stored correctly, this grade can offer a 12 month shelf life from its manufacture date.

## Health and Safety in Use

A4420 is a methyl methacrylate and should not be used without consulting the MSDS, which contains full information regarding the use of this product, including Transport, Disposal, Toxicological, Exposure Controls, Accidental Release and First Aid measures essential to the safe use of this product.

*\*Contact your Action Adhesives representative for full information and usage instructions.*

The information contained herein is produced in good faith and is believed to be reliable but is for guidance only. Action Adhesives (Ireland) Ltd, the supplier of this product cannot assume liability or responsibility for results obtained in the use of the products we supply by persons whose application methods are outside or beyond our control. It is the product user's responsibility to determine the suitability of any of the products and methods of use or preparation prior to use mentioned in our literature and furthermore the user's responsibility to observe and adopt such precautions as may be advisable for the protection of personnel and property in the handling and use of any of our products

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