

## Ultra Light-Weld® 4-20418 Series LOW STRESS PLASTIC AND GLASS BONDER

### INTRODUCTION

DYMAX Ultra Light-Weld® structural adhesives can be cured with UV or visible light. Ultra Light-Weld adhesives increase productivity, lower assembly costs and enhance worker safety.

### DESCRIPTION

Ultra Light-Weld 4-20418 Series adhesives provide rapid bonding and laminating to glass, metal, and many plastics such as: ABS, acrylics, polycarbonate, polyurethane, and styrene. Solvent free, visible and/or UV curing adhesives, 4-20418 Series, dispense easily and cure quickly for precise quantity and placement of adhesive. Bonds resist yellowing in the sun and good performance in thermal cycling.

### TYPICAL UNCURED PROPERTIES

Solvent Content		None - 100% Reactive Solids	
Chemical Class		Urethane (Meth) Acrylate	
Appearance		Clear	
Solubility		Alcohols/Chlorinated Solvents/Ketones	
Toxicity		Low	
Flash Point		>95°C (200°F)	
Viscosity (20 rpm)	4-20418 Series	450 cP	ASTM D-1084
	4-20418 Series-VT	35,000 cP (flows)	ASTM D-1084
	4-20418 Series-Gel	35,000 cP (gel)	ASTM D-2556

### TYPICAL CURED PROPERTIES

Durometer Hardness	D60	ASTM D-2240
Elongation at Break	130%	ASTM D-638
Tensile at Break	1,650 psi	ASTM D-638
Modulus of Elasticity	100,000 psi	ASTM D-638
Tensile Compression Shear		
Glass to Glass	2,750 psi (glass shatters)	DSTM D-250
Glass to Metal	2,250 psi (glass shatters)	DSTM D-251
Coefficient of Thermal Expansion	95 x 10 <sup>-6</sup> in/in/°C	ASTM E-831
Thermal Limit (brittle/degrades)	-55°C to 180°C -65°F/+350°F	
Water Absorption (24 h)	4.1%	ASTM D-570
Boiling Water Absorption (2h)	4.4%	ASTM D-570

**TYPICAL CURE DATA**

Lamp	2000-EC	5000-EC	PC-3	3010-EC
Light Type	UV	UV	UV	UV
Lamp Type	Flood	Flood	Spot	Spot
Intensity (mW/cm <sup>2</sup> ) at Peak Wavelength	50 @ 365 nm	150 @ 365 nm	1000 @ 365 nm	1800 @ 365 nm
Wavelength (nm) Working Range	300-500	300-500	300-500	300-500
Cure Speed (sec)				
Between Glass	5	5	5	4
1/8" Bead	8	7	6	5
Cure Depth in 1 Minute (inch)	0.16	0.25	0.29	0.300

**DISPENSING AND HANDLING ADHESIVE**

DYMAX 4-20418 Series adhesives are available in various packages such as syringes, cartridges, bottles, and pails. They may be dispensed with a variety of automatic bench-top syringe applicators or other equipment as required. Direct questions relating to dispensing and curing systems for specific applications, should be referred to DYMAX Technical Representatives.

Wear impervious gloves and/or barrier cream. Repeated or continuous skin contact with liquid adhesive will cause irritation and should be avoided. Do not wear absorbent gloves. Remove adhesive from skin with soap and water. Never use solvents to remove adhesive from skin or eyes.

**STORAGE AND SHELF LIFE**

Store material in cool, dark place when not in use. Do not expose to UV light or sunlight. Material may polymerize upon prolonged exposure to ambient light. Replace lid immediately after use. Product has a one-year shelf life when stored below 32°C (90°F) in the original, unopened container.

**CAUTION**

For industrial use only. Avoid breathing vapors. Avoid contact with eyes and clothing. In case of contact, immediately flush with water for at least 15 minutes; get medical attention. Wash clothing before reuse. Keep out of reach of children. Do not take internally. If swallowed, induce vomiting at once and call a physician. Repeated or continuous skin contact with liquid adhesive will cause irritation and should be avoided. For specific information, refer to the product's Material Safety Data Sheet.

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