

ES 2044 H

Fast Cure, Non-corrosive, Flame Retardant Silicone Adhesive Sealant

KEY FEATURES

- ☛ Fast cure, only 10 minutes tack-free time; flame retardant UL 94 V-0 (File No: E476344)
- ☛ Non-corrosive to metals; meets MIL-A-46146B corrosion test
- ☛ Excellent high and low temperature resistance: from -55°C to 200°C
- ☛ Primerless adhesion to many substrates
- ☛ Excellent weatherability, ozone, and chemical resistance

TYPICAL PRODUCT DATA

PROPERTY	UNIT	ASTM	VALUE
TYPICAL UNCURED PROPERTIES			
Appearance			White
Tack-free time (23°C)	minutes		10
Viscosity (23°C)	cP	D445	90,000
Corrosion			None
TYPICAL CURED PROPERTIES (7 days @ 23°C, 50%RH)			
Specific gravity	g/cm ³	D792	1.40
Hardness (Shore A)		D2240	55
Tensile strength	MPa	D412	3.0
Elongation	%	D412	200
Adhesive strength (Aluminum)	MPa	D1002	2.2
Thermal conductivity	W/(m · K)	D5470	0.4~0.5
Volume resistivity	Ω · cm	D257	1.0 X 10 ¹⁴
Dielectric strength	kV/mm	D149	22
Dielectric constant (50Hz)		D150	3.5
Dielectric loss (50Hz)		D150	0.02

ADHESION PERFORMANCE

SUBSTRATE	PERFORMANCE	ADHESIVE STRENGTH (MPa)
Metal		
Aluminum	Excellent	2.2
Brass	Excellent	2.2
Copper	Excellent	1.8
Mild steel	Excellent	2.0
Stainless steel	Excellent	2.0
Plastic and Resin		
ABS resin	Excellent	2.1
Acrylic resin	Poor	0.8
Epoxy resin	Excellent	1.7
Phenolic resin	Excellent	2.0
Polyacetal (POM)	Excellent	2.0
Polybutylece terephthalate (PBT)	Excellent	1.6
Polycarbonate (PC)	Good	1.5
Polyester film (PET film)	Excellent	1.8
Polyethylene (PE)	Poor	0.8
Polyimide (PI)	Excellent	2.2
Polyphenylene oxide (PPO)	Excellent	2.1
Polystyrene (PS)	Good	1.5
Polytetrafluoroethylene (PTFE)	Poor	0.8
Inorganic Material		
Glass	Excellent	2.5

TEMPERATURE AND HUMIDITY

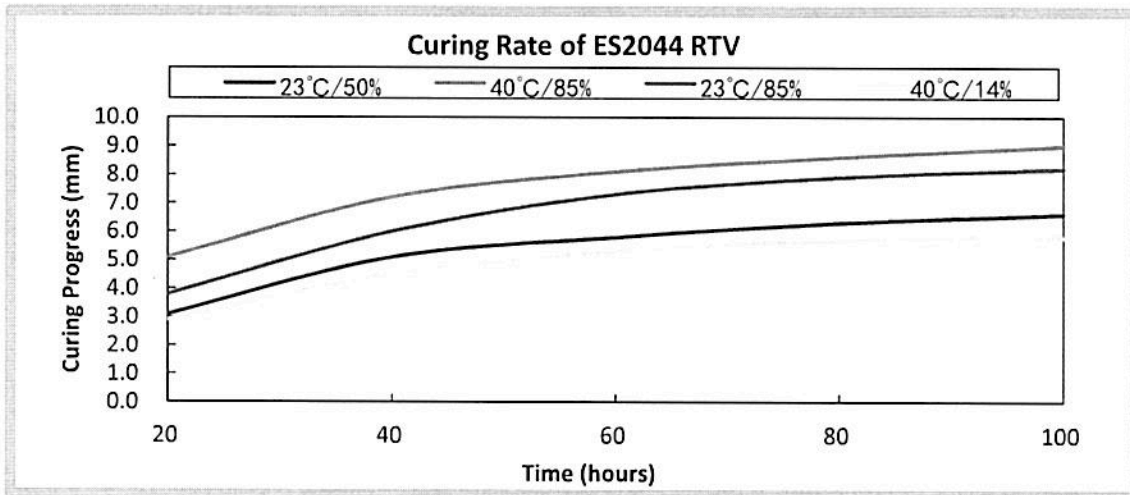


Figure: Curing rate of RTV ES2044H under different conditions



Curing Speed

Hour	23°C/50%	40°C/85%	23°C/85%	40°C/14%
20	3.1mm	5.1mm	3.8mm	2.9mm
40	5.1mm	7.2mm	6.0mm	4.5mm
60	5.8mm	8.1mm	7.3mm	5.3mm
80	6.3mm	8.6mm	7.9mm	5.7mm
100	6.6mm	9.0mm	8.2mm	5.8mm

Lap shear strength and curing time

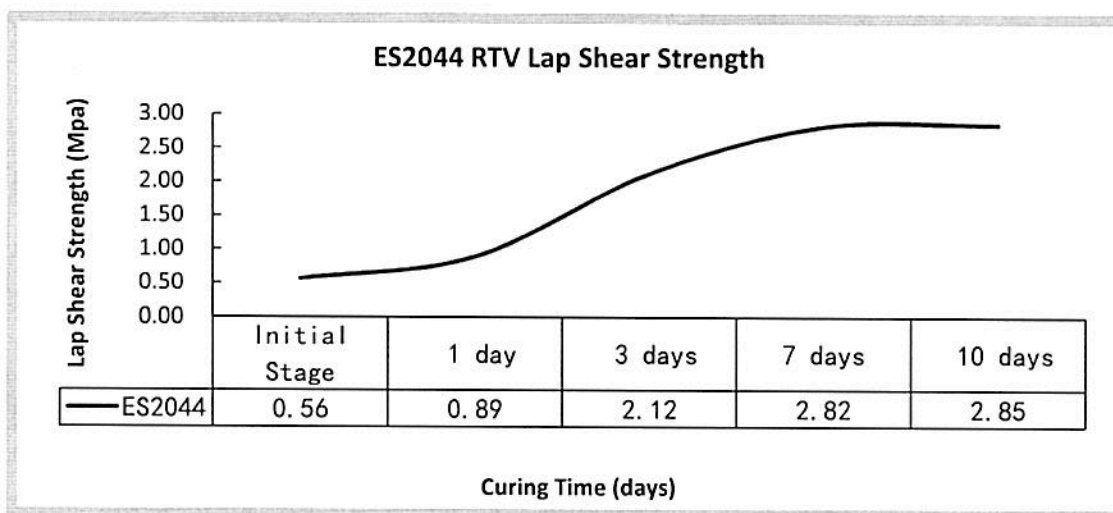
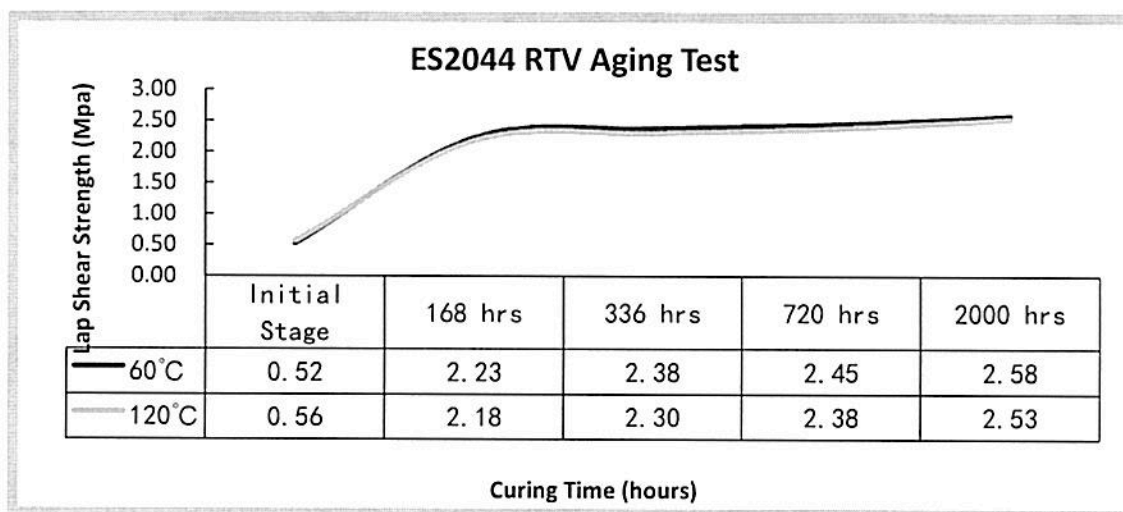


Figure: Curing conditions: 25°C, 50% RH. Substrate: Aluminum. Thickness 1mm, by pulling at a rate of 10mm/min.

Aging test at 60°C and 120°C



NOTICE

- ☛ If the application requires the adhesive to fully cure in a closed environment (including non-ambient temperature), customers are required to conduct their own verification as to whether or not unintended effects will be produced.

HANDLING AND SAFETY

- ☛ Wear eye protection when handling uncured sealant as it can irritate eyes.
- ☛ In case of eye contact, immediately flush eyes with water and contact a physician.
- ☛ Extended contact with skin may cause irritation and should be avoided.
- ☛ Adequate ventilation must be maintained in the work place at all times.
- ☛ Thoroughly clean and dry the surface before application.
- ☛ For industrial use only.

STORAGE

- ☛ Store in a cool dry place, and keep out of direct sunlight.
- ☛ Keep out of the reach of children.
- ☛ Shelf life: 10 months from the date of manufacture.

PACKING

- ☛ 120 ml / tube
- ☛ 333 ml / cartridge
- ☛ 3.64 kg / bottle

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FOR INDUSTRIAL USE ONLY

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