



# Structural Adhesive SA7036

Technical Data Sheet

April 2009

Supersedes Technical Data Sheet dated January 2002

**General Description** 3M™ Structural Adhesive SA7036 is two-part epoxy formulated specifically for steel hem flange bonding applications involving very high draw lubricant coated weights with good induction reactivity to achieve quick lockup. It features low activation temperatures to minimize panel distortion, broad off-ratio and over-bake tolerance, spot cure capability, structural bond strength, even on as-received, draw lubricated steel.

Physical Properties	Part A	Part B	Mixed Adhesive
	Color	Amber	Black

**Shelf Life** Store at room temperature for up to 6 months.

Storage and Handling	Storage	Part A	Part B
	Container sizes (standard) - drums - dual pack cartridges		113.6 liters (30 gal) 80 mL
Adhesive volume - drums - dual pack cartridges		98.4 liters (26 gal) 80 mL	196.8 liters (52 gal) 320 mL
Shelf life - at room temperature		6 months	6 months

Dispensing	Mixed Adhesive
Mixed ratio (B:A) - by weight - by volume	3.49 B : 1.0 A 4.0 B : 1.0 A
Off-ratio tolerance <sup>1</sup> - by weight - by volume	2.8 - 4.2 B : 1.0 A (±20%) 3.2 - 4.8 B : 1.0 A (±20%)
Open time	120 minutes
Induction cure	
Activation temperature	93°C/200°F
Over-bake temperature	218°C/425°F
Typical induction cycles	4-6 seconds at 121°C/250°F
Final cure	
Cure temperature	Cures at paint bake oven conditions

### Dispensing Equipment:

Drums can be dispensed through bulk equipment specifically designed for use with 2-part epoxy adhesives. Dual-pack cartridges can be dispensed manually; follow instructions included.

### Clean-Up:

Uncured adhesive can be removed by scraping with a putty knife or similar tool. For cured material, remove by cutting or sanding.

# Technical Data Sheet

3M™ Structural Adhesive SA7036

Page 2

Performance Properties	Over-Lap Shear (OLS) <sup>1</sup> Electro EG60 steel	Value	Failure Mode
	Room temperature plus oven cure <sup>2</sup>	2520 psi (17400 kPa)	Cohesive
	Induction plus oven cure <sup>3</sup>	2550 psi (17600 kPa)	Cohesive
	500 hours salt spray <sup>4</sup>	2320 psi (16000 kPa)	Cohesive
	180°F (82°C) hot shear	1580 psi (10900 kPa)	Cohesive
	30 APGE	1740 psi (12000 kPa)	Cohesive

Over-Lap Shear (OLS) on draw lubricated G60 HDG steel	Value	Failure Mode
Room temperature plus oven cure	2330 psi (16100 kPa)	Cohesive
Induction plus oven cure	2340 psi (16200 kPa)	Cohesive
500 hours salt spray	2175 psi (15000 kPa)	Cohesive
180°F (82°C) hot shear	1300 psi (9200 kPa)	Cohesive
30 APGE	1590 psi (11000 kPa)	Cohesive

T- Peel on draw lubricated 6111 aluminum	Value
On G60 HDG steel	31 piw (5.7 kg/cm width)
On EG60 electro steel	33 piw (6.1 kg/cm width)

Note: This data is not intended to be used for specification purposes.

- <sup>1</sup> Measured on 25.4 mm (1 inch) wide coupons using 12.7 mm (0.5 inch) over-lap bonds. Thickness of the bond line was 0.25 mm (0.010 inch). Cross head speed was 12.7 mm/minute (0.5 inches/minute). Metal thickness was approximately 0.76 mm (30 mils). Draw lube coating weight was approximately 400 mg/sq. ft.
- <sup>2</sup> After 24 hours at room temperature followed by 20 minutes at 171°C (340°F)
- <sup>3</sup> After induction-cure cycle of 5 seconds each at 121°C (250°F) followed by 24 hours at room temperature and 20 minutes at 171°C (340°F)
- <sup>4</sup> After room temperature plus oven cure as in superscript 2 followed by 500 hours 5% NaCl salt spray at 35°C (95°F)

# Technical Data Sheet

3M™ Structural Adhesive SA7036

Page 3

Features, Advantages, Benefits	Product Features	Performance Advantages	Customer Benefits
	Epoxy Chemistry	<ul style="list-style-type: none"> <li>• High bond strength (2330 psi OLS) with cohesive failure mode on hot dipped galvanized (HDG) steel</li> <li>• Compatible with significant coating weights of draw lubricants of several varieties</li> <li>• Excellent environmental durability to heat, humidity, salt water and solvents</li> </ul>	<ul style="list-style-type: none"> <li>• Robust, structural bonding performance even on untreated substrates</li> <li>• Very high draw lubricant coating weights can be tolerated</li> </ul>
	Two parts	<ul style="list-style-type: none"> <li>• Extended shelf life</li> <li>• Controlled reactivity; balance of longer open time before induction with fast lock-up after induction</li> <li>• Room temperature strength build; permits spot induction cure with cohesive failure mode</li> <li>• Can be dispensed with commercially available dispensing systems; broad off-ratio tolerance</li> <li>• Wash-out resistance</li> </ul>	<ul style="list-style-type: none"> <li>• Broad handling and dispensing windows</li> </ul>
	Induction activation and cure	<ul style="list-style-type: none"> <li>• Low temperature activation at or below 93°C /200°F, depending on cycle time; reduced potential for panel distortion</li> </ul>	<ul style="list-style-type: none"> <li>• Broad curing windows; faster cycle times and low induction temperatures minimize risk of panel distortion</li> </ul>
	Final heat cure	<ul style="list-style-type: none"> <li>• Broad over-bake tolerance</li> </ul>	

# Technical Data Sheet

3M™ Structural Adhesive SA7036

Page 4

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