



Technical Data Sheet

DOWSIL™ EA-5151 QiC Assembly Adhesive Clear

This reactive silicone Quick in Connect (QiC) adhesive utilizes silicone technology to achieve instant green strength when dispensed and cures to strong moisture-cured silicone adhesive.

Features & Benefits

- Instant green strength delivers improved productivity in assembly applications.
- Neutral moisture cure RTV.
- High transparency.
- Non yellowing.
- UV stable.
- 100% silicone.
- Low volatile organic content.
- < 24 g/L (exempt in CA).
- Non-hazardous composition and reaction by-products.
- Primerless adhesion to wide range of substrates.
- Improved creep resistance to static loads over a broad range of service temperature.
- Service temperature from -50°C to 150°C.
- Pot life up to 24 hours at 120°C.
- Open time up to 15 minutes.
- Can be used with standard heat assisted dispensing equipment.

Composition

- One-component, neutral (moisture) cure, heat assist dispensed silicone pressure sensitive adhesive.

Applications

- DOWSIL™ EA-5151 QiC Assembly Adhesive Clear material is intended for use in automotive electronics or industrial and energy control units, sensors, displays, battery packs and other components requiring attachment, gasketing, lid seal, connector sealing or adhesion.

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Test ¹	Property	Unit	Result
CTM 0176	Appearance		Clear
CTM 0044	Specific gravity, uncured		1.08
CTM 1134	Viscosity at 100°C	Pa·s	200

1. CTM (Corporate Test Method) corresponds to ASTM (American Society for Testing and Materials) standard tests in many cases. Copies of CTMs are available upon request.

Typical Properties (Cont.)

Test	Property	Unit	Result
CTM 1134	Viscosity at 120°C	Pa·s	70
CTM 0839	Non-volatile Content	percent	> 98.5
CTM 0243	Open Time ²	minutes	15
CTM 0243	Lap Shear Adhesion – Aluminum 15 Min / 1 Day / 21 Days	MPa	0.1/0.2/1.15
CTM 0243	Lap Shear Adhesion (21 Days) FR4/PC/PMMA/PTFE	MPa	1/0.9/0.8/0.7
ASTM C661	Durometer – Shore A	points	60
ASTM D412	Ultimate Tensile Strength	MPa	4.3
ASTM D412	Ultimate Elongation	%	1300
	Linear CTE (by TMA)	ppm/°C	230
CTM 0114	Dielectric Strength	kV/mm	24
CTM 0249	Volume Resistivity	ohm·cm	1E+16
CTM 0112	Dielectric Constant at 100 Hz		2.82
CTM 0112	Dielectric Constant at 100 kHz		2.60
CTM 0112	Dissipation Factor at 100 Hz		0.0095
CTM 0112	Dissipation Factor at 100 kHz		0.0012
ASTM D 1003 ³	Light Transmittance (1 mm) at		
	380 nm	%	94
	450 nm	%	94
	760 nm	%	94

2. To ensure adhesion to substrate.
3. Modified version using irradiance instead of luminance.

Description

DOWSIL EA-5151 QiC Assembly Adhesive Clear is a silicone, neutral-cure adhesive formulated to have immediate green strength to offer assembly improvements and other production applications. Products made with this adhesive can be immediately handled.

As a viscoelastic material when cured and then exposed to high temperatures, this product will soften but recovers to its typical properties when cooled down.

How to Use

Preparation

Surfaces should be clean and dry before application of the hot melt adhesive.

Application

Application temperature is typically between 115°C and 135°C. When the melt temperature has been reached, application with automated or hand-assisted dispensing equipment can begin. Once applied to the substrate, the parts should be assembled within 15 minutes. Once applied, this product reacts with the atmospheric moisture to form a weather resistant, flexible, silicone adhesive. Exposure of opened containers with air should be minimized.

**Handling
Precautions**

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

**Usable Life and
Storage**

When stored at or below 32°C in the original unopened containers, this product has a usable life of 12 months from the date of production.

Refer to product packaging for "Use by Date".

**Packaging
Information**

This product is available in 304 mL aluminum cartridges, 22 kg pail and 205 kg drum.

Limitations

DOWSIL™ EA-5151 QiC Assembly Adhesive Clear is not intended for use:

- In spaces totally confined from atmospheric moisture during cure
- In continuous water immersion
- On surfaces that might bleed oils, plasticizers, or solvents
- On wet surfaces

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

**Health and
Environmental
Information**

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

**Disposal
Considerations**

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

**Product
Stewardship**

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

How Can We Help You Today?

Tell us about your performance, design, and manufacturing challenges. Let us put our silicon-based materials experience, application knowledge, and processing experience to work for you.

For more information about our materials and capabilities, visit **dow.com**.

To discuss how we could work together to address your specific needs, go to **dow.com** for a contact close to your location. Dow has customer service teams, science and technology centers, application support teams, sales offices, and manufacturing sites around the globe.

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