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## 111-28

### ANISOTROPIC CONDUCTIVE ADHESIVE

**DESCRIPTION:** 111-28 is a silicone, pressure sensitive, anisotropic conductive adhesive. The overall balance of peel strength, cohesion, lap shear strength, high temperature holding power, and conductivity provides a versatility that makes this product useful in a wide range of fastening and bonding applications. This product is very resistant to flexing and creasing. 111-28 is designed for bonding rubber to a variety of substrates such as aluminum, stainless steel, and steel. Peel strength develops rapidly and continues to increase for approximately one week. 111-28 is a higher viscosity version of 108-15.

#### TYPICAL CURED PROPERTIES:

Volume Resistivity ( $\Omega$ -cm)	
(X, Y Axis)	$1 \times 10^{12}$
(Z Axis)	0.0001
Consistency	Medium viscosity liquid
Crease Resistance	Excellent
Hydrolytic Stability	Excellent
Useful Temperature Range ( $^{\circ}$ C)	-70 to +260
Thermal Stability ( $^{\circ}$ C)	Good to 325
Peel Strength (lbs./inch)	9 - 11

**HANDLING & CURING:** 111-28 is ready to use as supplied. Further thinning may be accomplished by adding small amounts of toluene or xylene. Apply thin film of adhesive to one or both surfaces to be bonded. Dry at room temperature for approximately 10 to 20 minutes. At this point, the surfaces should be pressed firmly together. Best properties, for most applications, result when cured for 5 to 10 minutes at 160 $^{\circ}$ C. Good properties are obtained on a variety of substrates by curing at temperatures ranging from 50 $^{\circ}$ C to 180 $^{\circ}$ C. Alternately, the assembled part can be cured at room temperature, allowing 1 week to develop full strength. End user is advised to experimentally determine temperature and time best suited for individual applications. (See back of sheet for step-by-step directions.)

**STORAGE:** Shelf life: 2 months at 25 $^{\circ}$ C; or 6 months at 5 $^{\circ}$ C; or 9 months at -10 $^{\circ}$ C.

**SAFETY & HANDLING:** Contains flammable solvents. Use with adequate ventilation. Keep away from sparks and open flames. Avoid prolonged contact with skin and breathing of vapors. Wash with soap and water to remove from skin.

*All technical information is based on data obtained by CMI personnel and is believed to be reliable. No warranty is either expressed or implied with respect to suitability in a particular application or possible infringements on patents.*

**REVISION DATE: 8/14/01 REVISION: B**



## **PROCEDURE FOR APPLYING 111-28**

1. As with all adhesive bonds, surface preparation is a vital part of the process. Carefully clean both surfaces to be bonded with XYLENE if possible. If XYLENE is not compatible with the surfaces to be bonded, another suitable solvent may be substituted.
2. Allow cleaned surfaces to dry for approximately 2-3 minutes.
3. Apply CMI#111-28 to one or both surfaces to be bonded by means of a suitable technique (i.e. syringe dispensing, knife over roll coating, reverse roll coating, brushing, spraying, etc.). The thickness range for good bonding is typically 0.6 mils to 1.3 mils for most surfaces, but is influenced by the geometry of the surfaces. The end user is encouraged to experimentally determine the best thickness for each individual application.
4. Allow CMI#111-28 to dry at room temperature until the solvent is evaporated out. (A slightly elevated temperature may be used to speed up the drying.) The time will vary depending on the thickness but usually is approximately 3-5 minute. The dried surface will now be tacky.
5. Mate the second substrate to the adhesive and apply pressure. A pressure of about 100 psi. Is recommended. Pressure required is somewhat influenced by the geometry of the parts being bonded. If possible maintain pressure on the bonded item during operation.