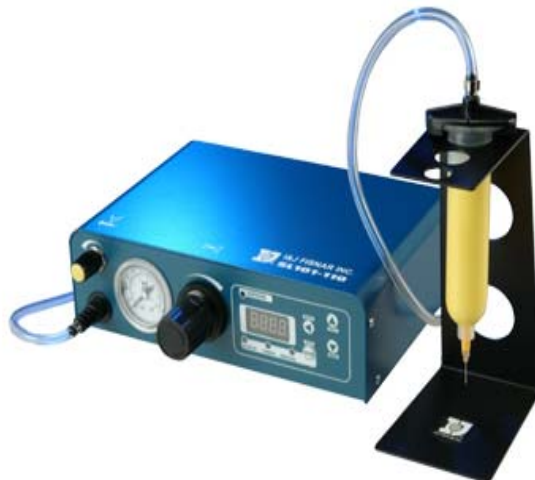


Thermodime™ Application Note

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A thin film of mono crystalline diamonds is the best thermal fill between microscopically irregular surfaces. Thermodime™ provides a supply of high quality diamond mono crystals in a suitable carrier liquid. This product comes in a convenient syringe pack with a fine stainless steel application nozzle. A small amount of the paste should be dispensed on one surface (preferably the device surface) and spread around so as to completely cover the contact area and form a film between 20 and 50 microns thick. The appropriate thickness depends on the roughness of the mating surfaces; polished surfaces require a thinner film whereas rough surfaces require a thicker application so as to fill all surface depressions. If the RMS surface roughness is known then use 1.5 times that value. The best heat transfer is obtained when all air pockets are eliminated by the diamond fill. The exact thermal conductivity and thermal resistance are application dependent and, where required, must be experimentally determined. With proper use of Thermodime™ thermal conductivity and thermal resistance values obtained will be significantly superior to those obtained with other thermal interface materials.

For semi- and fully-automatic application of Thermodime™ fluid dispensing tools are available. These vary from simple electronic pneumatic dispensing systems (below left) to comprehensively programmable dispensers suitable for high volume manufacturing operations (below right). Contact ElectrosPELL if you require more information about semi or fully automatic dispensing solutions.



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After the application of Thermodime™, the two surfaces (usually the component to be cooled and its heat sink) are brought into contact with gentle pressure and secured with either mechanical means or the use of appropriate adhesives. In the latter case, sufficient time must be allowed before adhesive applications to let Thermodime™ dry off. Please note that Thermodime™ itself has no adhesive properties so a suitable means - either mechanical clamping or an adhesive material - must be used to attach the device to its heat sink.

Store Thermodime™ at room temperature or refrigerate in the range of 5 °C to 10 °C. Do not allow it to freeze. This product has no expiry date but it is strongly recommended that the syringe cap is kept on at all times to avoid the loss of carrier fluid through evaporation. See Material Safety Data Sheet (MSDS) for safety information.
