

## FACT SHEET

# ICT-UP60



ICT-Up 60 SERIES is the latest generation from the family of electrically insulating phase-change materials, which results in a considerable improvement in all thermal power with them and yet has a consistent, reliable, dielectric strength, such as the ICT-Dp60 standard phase Change Material. ICT-Up 60 is a High-performance, electrically insulating, heat conductive, solvent- and silicone-free hi-performance phase-change material that uses a Kapton® MT+ polyimide film as a thermally conductive substrate carrier.

PHASE CHANGE MATERIALS (ELECTRICALLY INSULATING)

## DESCRIPTION

**The latest generation with a 40% better performance in the total thermal performance**

Based on the principles of Kapton MT® + (Dupont), but with almost double of thermal conductivity compared to the standard Kapton MT series the ICT-Up60 SERIES utilizes the combination of the benefits of prosperous manufacturer Phase Change technology and its increased efficiency in the polyimide film technology.

By the development of this unique formulation, the phase-change compound already provides a very efficient thermal transmission through phase-change at normal operating temperatures, while maintaining a uniform bonding line during the expansion process. With the result that the air is expelled efficiently and surface irregularities or flatness conditions exist across the interface also can be minimized.

The ICT-Up60 SERIES can be produced in two different thicknesses and therefore comprises a total of two units:

### ICT-Up60-L05-KP1 und ICT-Up60-L05-KP2

The connection of thermally conductive Kapton® MT+ film as heat-conductive substrate carrier and uniform thickness coating of the thermoplastic, thermally conductive ICT-Up60 on both sides, guarantee an efficient thermal transfer before and during phase change, as well as during normal operating temperatures during operation. An efficient thermal connection to the contact surfaces is only possible by the implementation of an absolutely uniform coating of the ICT-Up60 phase change material on both sides of the substrate liner.

Through the development of this unique formulation, the ICT-Up60 already offers a very efficient thermal transmission by phase change at normal operating temperatures, where a uniform connection line is maintained during the expansion process.

The result is that air is efficiently expelled and therefore any surface irregularities or flatness conditions that are present on the interface can be minimised.

With the help of this thermal interface solution, for example, discrete semiconductors, LEDs, microprocessors or any other type of heat generation can be successfully deheated. With the different available material thicknesses it is also possible to cover a wide range of non-electrically insulated power supplies.

Only through efficient and reliable contact connection between heat generation and heat sink can an optimal thermal be carried out in the heat sink or the housing tray.

## TYPICAL PROPERTIES

Operating temperature	from -60 to 140 °C
Thermally conductive	Yes
Thermal conductivity	0.8 W/m*K
Thermal resistance (inch <sup>2</sup> / 645,16mm <sup>2</sup> )	0.78 0.85
Dielectric strength	7.1 kV (AC)
Electrically conductive	No
Flammability (UL 94)	94 VO
Color	Yellow



## FEATURES

- › Silicone free
- › Guaranteed Layer Thickness
- › Cost-effective drop-in-place solution
- › Fully customer-centered for specific requirements
- › Low Thermal Impedance
- › Excellent mechanical and electrical insulating properties
- › Solutions for many types of surfaces
- › Excellent replacement for thermal paste
- › Only low tightening torque required
- › Fast, clean and process-safe pre-assembly by partial adhesive strips on the outside areas of the Tims
- › Material can be interchangeable without surface treatment
- › Easy cleaning by Isopropyl alcohol
- › Non-combustible according to UL 94 V0 Kapton MT UL registration (file.-No. E39505 du Pont)

## DELIVERY FORMS / APPLICATIONS

- Other coating thicknesses can also be requested on request
- Roll lengths and widths available according to customer requirements (from 12 mm width, tol: +/-0.5 cm)
- In roll form, dimensions according to customer specification (drop & place) with or without partial adhesive liner both variants available on reel, also available unilaterally
- Fast, clean and process-safe pre-assembly by partial adhesive strips on the outside areas of the Tims
- Standard sheet Sizes-sheets | Standard DIN A4/30cm x 24inch or 39 cm x 60 cm (tol: +/-0.5 cm)
- In blanks and shapes according to customer specification sheet/roll/loose or on carrier (Kisscut)
- Depending on customer requirements
  - \* The unilaterally applied adhesive liner layer (acrylic adhesive layer) increases the Rth value by up to 0.05 ° K/W

