



AI Technology, Inc. (AIT)

Release-On-Demand Heat Release Support Sheet for Temporary Fixing of Components or Extreme Cutting-Dicing Protection

RELEASE-ON-DEMAND™ TRF200

January 17, 2019 Princeton, Jct. NJ

Thermal release tape is a unique layered sheet which includes an adhesive layer that loses its ambient tackiness and pressure-sensitive adhesive strength upon heating to a high temperature beyond 100°C or thereabout. They have found many useful applications such as protecting brittle substrate such as electronic ceramics and wafers during dicing-cutting processes. This heat-releasing supporting sheet also found usefulness in temporary holding of devices and/or components during processing including molding and electronic assembly processes.

“Chip First” Fan-Out-Wafer-Level Packaging (FOWLP) with Pre-applied Temporary Bonding Adhesive on Carrier

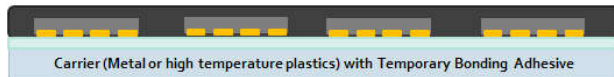
(Same AIT Carrier with Pre-applied Temporary Bonding Adhesive is also applicable for “Chip Last (RDL) First” processing)

Carrier (Metal or high temperature plastics) with Temporary Bonding Adhesive

1) AIT developed high temperature stable polymer carrier with pre-applied temporary bonding adhesive for ease of application



2) Dies are picked and placed in redistributed panel or wafer format



3) Redistributed panel or wafer on AIT temporary bonding carrier can be over-molded and post-cure at temperature up to 200°C

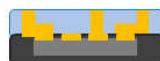


4) AIT temporary bonding carrier is peel-released from the molded panel-wafer with 0% residual



5) Standard WLB process for wafer level redistribution layer

6) Singulation into individual components



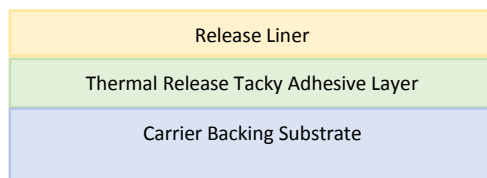
Traditionally heat-releasing sheets use heat-inducing “foaming” mechanism for releasing but unfortunately, when such heat-releasing tapes or sheets are subjected to some lower temperature below its “foaming” temperature, they actually increases bond strength or lose its usefulness and heat-releasing support film.

AIT is proud to offer its Release-On-Demand™ heat-releasing sheet that does not use “foaming” release mechanism to have better control in releasing applications. Instead, AIT uses novel polymer structure that loses its adhesive properties upon heating to 150-175C for 30-60 seconds. The properties form a special polymer structure bonded on the carrier film, lose its pressure sensitive properties on the supported devices, and thus afforded much more controlled and clean release. It leaves 0% residue upon release from semiconductor wafer materials, ceramic substrates, glass substrates, molding compounds, epoxy boards and metals. There is absolute no need for any cleaning post processing.

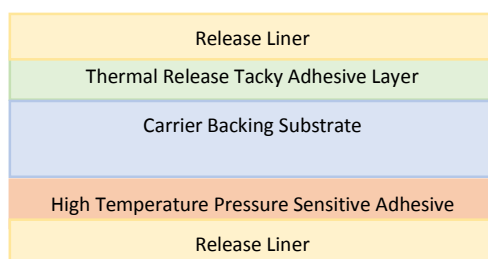
The carrier supporting film layer does not change shape or deformed up to 200°C and thus suitable for all molding and typical electronic assembly processes.

Whether you are looking for supporting release substrate for molding, extreme die-cutting or processing, AIT’s **RELEASE-ON-DEMAND™ TRF200** supporting film sheets offer unparalleled NO CLEAN post processing applications. [Consult an AIT application engineer](#) to get a personalized recommendation for your application today!

Basic Configuration of AIT Release-On-Demand™ Sheet:



Specialty Configuration of AIT Release-On-Demand™ Sheet:



About AI Technology, Inc. (AIT):

Since pioneering the use of flexible epoxy technology for microelectronic packaging in 1985, AI Technology, Inc. (AIT) has been one of the leading forces in development and patented applications of advanced materials and adhesive solutions for electronic interconnection and packaging. AI Technology, Inc. (AIT) offers some of the most reliable adhesives and underfills for die bonding for the largest dies, stack-chip packaging with die-attach film (DAF), flip-chip bonding and underfilling and high temperature die bonding for single and multiple-chip modules for applications beyond 230°C. The company continues to provide the best adhesive solution for component and substrate bonding for both military and commercial applications. AIT's thermal interface material solutions, including our patented phase-change thermal pads, thermal greases and gels and thermal adhesives have set many bench marks of performance and reliability for power semiconductors, modules, computers and communication electronics.

For an application analysis: <http://www.aitechnology.com/analysis/>

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