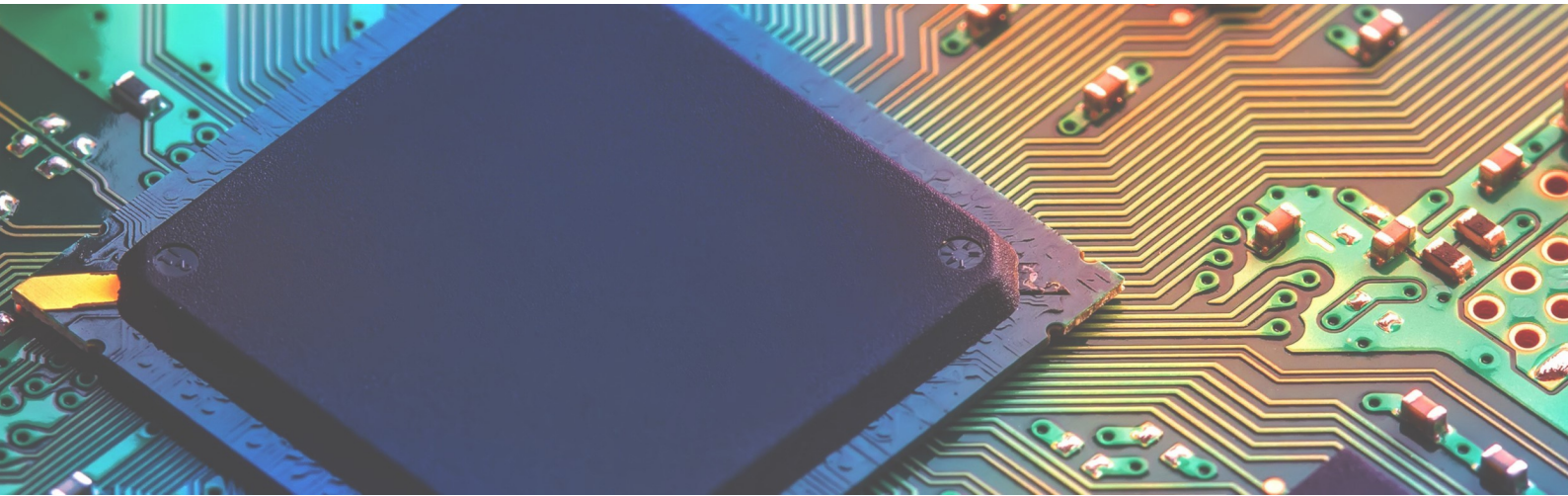


Case study: Semiconductor industry

TOMBO™ No. 9001 NAFLON™ PTFE Tape



Industry

Semiconductor - 5G CCL manufacturing.

Customer

Global leading manufacturer in CCL manufacturing and assembling flexible printed circuit boards.

Background

In CCL production, a panel of laminate is prepared combining an epoxy resin core and glass-fibre cloth with copper foils. In the laminate pre-bonding process, the customer used a PTFE tape (as PTFE is electrically insulating and therefore suitable for the process in an electrically sensitive environment). The use of pure-PTFE enables the layer to become highly electrically resistant without causing any damage to the PCB by electrical disturbance which is especially essential for 5G CCL application; however, the PTFE tape the customer was using had a curling/waving tendency and was difficult to use for this process, lowering the productivity and causing defected products.

Challenges faced

As the business is rapidly growing and under pressure for ever higher productivity as well as ongoing miniaturization and demands for higher quality, the customer was seeking a new PTFE tape which offered the protective properties required but which did not curl, so overcoming the production efficiencies and problems resulting from using PTFE tape which curled.

Solution and benefits

To satisfy the customer requirements and meet their needs, two NAFLON™ PTFE skived Tapes (0.050 mm thickness and 0.025 mm

thickness), made by NICHIAS were proposed as a solution. NAFLON™ PTFE Tape is manufactured to be curl-resistant by employing a special manufacturing process to improve residual stress in the tape and thereby produce a flatter finished PTFE tape than others.

At a trial test for producing a laminate, NAFLON™ PTFE Tapes proved to be a better choice than the existing tape, by more uniformly absorbing temperature and pressure changes and showing excellent creep and shrinkage resistance under high pressure and temperature. As it is made of pure-PTFE, NAFLON™ PTFE Tapes have high dielectric resistance, making PCBs free from electrical disturbance. Moreover, when rolled out from the package, NAFLON™ PTFE Tape was much easier to handle without concerns of curling and waving.

Since using NAFLON™ PTFE tape, the customer has improved their process efficiency and enjoys higher productivity and quality as they can rely on high creep/shrinkage resistance, strong electrical insulation and thermal dimensional stability.

For more information, please visit:

<https://nichias.co.jp/en>



NAFLON™ PTFE Tape

*TOMBO is a registered trademark or a trademark of NICHIAS Corporation.

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