

DuPont™ Interra® Safe Handling Guide

Flexible Circuit Materials

Products

DuPont™ Interra® Capacitor Laminates are double-side copper-clad laminates featuring an all-polyimide dielectric core. Experience shows that Interra® sheet goods can easily be handled safely. Interra® laminates are classified as “articles” in the U.S. and E.U. and are not subject to an MSDS requirement. Interra® materials have been tested under operating conditions with some found to liberate measurable volatiles only well below standard permissible exposure limits.* For these materials, we provide an MSDS that covers the vapors that may be liberated during processing.

Copper-Clad Laminates

Interra® copper-clad laminates are supplied in sheet format. DuPont is not aware of any health hazard associated with working with cured materials. As with all thin, copper-clad laminates, sharp edges present a potential hazard during handling. All personnel involved in handling Pyralux® laminates should use suitable gloves to minimize potential cuts.

Manual Handling

DuPont™ Interra® Capacitor Laminates are supplied in sheet format. Anyone Interra® materials should wash their hands with soap before eating, smoking, or using restroom facilities. Although DuPont is not aware of anyone developing contact dermatitis when using DuPont™ Interra® products, some individuals may be more sensitive than others. Care should be taken to avoid or minimize direct contact. Gloves, finger cots, and finger pads should be changed daily. Protective clothing should be washed frequently.

Processing Lay-up

When DuPont™ Interra® materials sheet format are laid up for lamination, a clean, well-lighted and well-ventilated layup area is recommended. Air sampling tests indicate either undetectable levels or levels orders of magnitude below protection limits for volatile materials. To eliminate contact during processing, wear lint-free gloves or fingerpads. This serves a dual purpose: to prevent contaminating the adhesive with organic oils from the skin, and to prevent the skin from absorbing any materials from the laminate.

Ventilation

Adequate ventilation and exhaust need to be provided in press rooms to prevent the build-up of potentially harmful vapors, to remove disagreeable odors, and to dissipate heat. An exhaust hood or canopy placed directly above each press is recommended. This allows the liberated warm vapors to rise and be effectively captured and removed. If there are no hoods, dilution ventilation is required. This can be accomplished by providing adequate room air changes and fresh air input to dilute vapors and remove them from the work area. Room ventilation pattern should be established to draw vapors away from operators. Should ovens be used to heat these materials before or after lamination, they should also be equipped with adequate ventilation.

Lamination

During lamination of DuPont™ Interra® materials, utilize a well-ventilated area with a fresh air supply to avoid build-up of trace quantities of volatiles. All-polyimide materials can give off residual solvent (typical of polyimides), which may volatilize during press or nip roll lamination. Airborne monitoring tests indicate concentrations to be extremely low. Press pad systems used during lamination include many different materials (e.g., paper, plastic films, and rubber) which may also liberate vapors during lamination. Contact the manufacturers of such press pad materials for safety information.

Drilling and Routing

Appropriate personal protection equipment should be used, and standard ventilation should be installed, when drilling or routing Interra® products. While studies indicate that heavy drilling and routing activity, with standard equipment, does not generate hazardous quantities of airborne particles, DuPont recommends providing adequate vacuum around the drill to minimize worker exposure to generated dust. No additional or unique procedures are required beyond the standard procedures recommended by equipment vendors and required by regulatory standards

*Values for all materials monitored were well below 10% of their accepted limits (permissible exposure limits or threshold limit value). In only one case, did the concentration reach approximately 40% of its limit. This was an oven used to dry the material. This oven drying is not normally used in the process and during the exposure-monitoring test the oven was unventilated. Adequate ventilation is recommended for any heating process.

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Other Considerations

Presses used for bonding should be operated with adequate safety guards and controls to eliminate pinch points and hot surface hazards. Handling heated and/or heavy press loads also requires special precautions. Press operators should be adequately trained in safety aspects of working with this equipment. Operators handling Interra® in chemical or mechanical processes should use adequate eye protection and follow manufacturers' safety recommendations.



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For more information on Interra® Capacitor Laminates or other DuPont products, please visit our website.

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CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102-5 and "DuPont Policy Regarding Medical Applications" H-50103-5.

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