

APPLICATION GUIDELINES FOR AIRDEC AND RAILDEC DECORATIVE LAMINATES

GENERAL GUIDELINES FOR USING DECORATIVE LAMINATES:

When using Isovolta decorative laminates, pay careful attention to cleanliness in the work area, activities which cause dust, oil, or solvent contamination, should be separated from the application work area. The work area and the components to be joined should be kept at an equivalent constant temperature prior to application. A smooth, clean part surface is also essential to successful decorative laminate application, so part surface preparation may include: grinding, scraping, solvent cleaning, filling, fairing, dry sanding, washing, and drying. To ensure good adhesion and avoid blistering, residual solvents or cleaning substances should be removed from the part and decorative laminate surfaces before application. If unfamiliar with the application process, practice on a scrap part, and evaluate adhesion and appearance if possible. If you require any further information or assistance, please contact our customer service department.

REMOVAL OF DECORATIVE MATERIAL:

With the wide variety of materials used in aircraft interior part decoration, it is impossible to provide universal removal process recommendations. Some adhered laminates are best removed by softening the adhesive with heat, and others by chilling the adhesive to the point of brittle failure, and then peeling or scraping the decorative laminate from the part. The removal of decorative paint or residual adhesives may be aided with solvents, paint removers, sanding, or blasting with starch, nut shells, or other non-destructive materials. Regardless of the method, ensure that it does not damage or deform the panel.

CUTTING DECORATIVE LAMINATES TO SIZE:

Thermoformable materials should be cut oversize by at least 5 cm, depending on the tool configuration. Fiberglass-reinforced materials should be cut exactly to the size of the component part.

ADHESIVES:

Our decorative materials can be provided with pressure sensitive adhesive, heat activated adhesive, or bare for use with customer supplied contact adhesives.

PRESSURE SENSITIVE ADHESIVE:

Pressure sensitive adhesive (PSA) is suited primarily for application of decorative laminates to flat or simple (one-dimensional) curved parts. The protective film is partially peeled from the back of the laminate, and the decorative laminate is aligned and tacked to the edge of the panel. The protective film is then gripped and pulled away while simultaneously rubbing the laminate onto the panel by hand, or by wiping it with a rubber bladed tool, in order to eliminate bubbles. Bond strength can be improved, especially in critical areas, by using adhesive primers, application with vacuum, or application with heat (50 - 70°C, 122 - 158 °F) and vacuum.

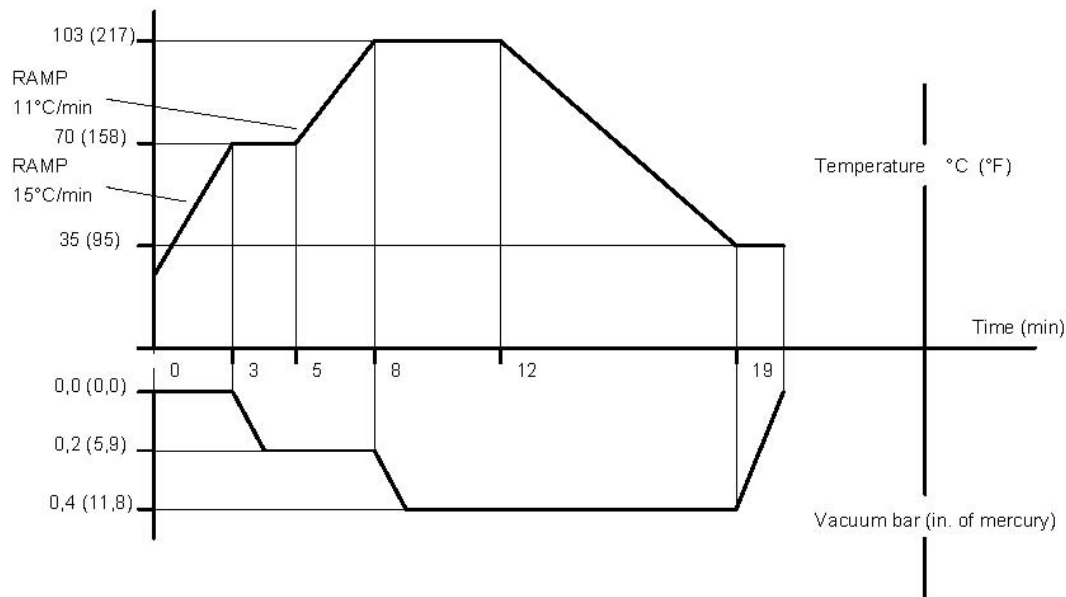
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HEAT ACTIVATED ADHESIVE:

Heat activated adhesive (HAA) is suited for complex contoured (two-dimensional curves), simple contoured (one-dimensional curves), as well as flat parts. HAA works very well when applying decorative laminates in a vacuum-forming apparatus. The decorative laminate with HAA is typically suspended above the part in the apparatus, in a manner that minimizes stretch and prevents wrinkles. A typical thermal cycle for the application of decorative laminates to curved parts is shown in the illustration below. The cycle consists of a period of increasing temperature followed by a short dwell time during which vacuum is increased, and a second period of increasing temperature, followed by a short dwell time during which vacuum is further increased, and finally a slow cooling period. Such a cycle minimizes the loss of texture, and maximizes the bond strength.

Under certain circumstances a heat gun can be used to apply decorative laminates with heat activated adhesive. The best results are obtained by heating the back (adhesive) side of the laminate between 90 and 105°C (194 - 221°F), and applying pressure with a hand or sandbag, until the part has cooled sufficiently.

APPLICATION CYCLE :



Regardless of the application method and parameters, pre-production tests are strongly recommended in order to optimize the process and part quality.