

Arlon DPF 4560GTX

usage and application



Introduction

While 4560 Series film may be used as a printed wrap material it must be recognised that calendered films are more susceptible to temporary ink/solvent related softening and adhesion loss than are the more expensive and high performance cast materials. The condition of postprint softness etc. is only temporary however. Both film and adhesive recover after the solvents that carry digital inks are completely evaporated from the material.

Printing and drying

When printing full color saturation the maximum amount of solvent (as the ink carrier) is being applied along with the ink. This solvent penetrates the vinyl and adhesive during and slightly after the print process, where it lingers until several hours of drying take place. Post print heaters will only dry the top layer of the print so it loses its tack and will not smear upon rolling and unrolling. To dry the ink, film and adhesive adequately requires a loosely wound roll or sheeted section to rest in a warm and dry environment for at least 12 hours. Often, when the humidity is high or the weather cool the time for drying must be extended another day or even two. To determine how well dried the product is one can pull back a section of printed film from the release liner and smell or stretch the film. If the smell of ink solvent remains strong or the film feels very soft allow the film to continue drying. Any additional heat and ventilation using warm fans will accelerate drying rate by at least double.

When printing decals which are to be trimmed to an edge a good strategy is to print then trim to a narrow border (2 to 4 mm) before installation. This unprinted band of white vinyl will anchor the print within. In the case of any stretch caused by installation an unprinted border will stabilize against shrinkage or glue to vinyl separation.

Application

During installation of any vinyl it is important to keep stretch to a minimum in spite of the fact that stretching the film is also the easiest way to avoid wrinkling the graphic. Applying stretch to decals creates a great deal of tension and as the film dries and hardens this stretching exerts strong shrinkage forces particularly on the edge of the graphics. Where graphics will need to be shaped around features the distortion should be started early in the application and continue gradually throughout the section rather than applying all the stretch along one particular area and especially along the edges.

Where graphics have been made to take sharp corners it is to be trimmed with a razor knife to slightly ahead or even with the crown of the corner. Cut edges are to be finished with an additional pass of a torch or heat gun and final squeegee stroke as the film cools and adhesive bond builds. Merely passing a heat gun across cut edges does no good as the additional heat actually releases the adhesive and accelerates edge shrinkage. The final stroke with a squeegee as the film cools assures the adhesive bond is reestablished at the highest level of surface contact.

Where graphics have passed over a closed channel the film is to be cut along both upper channel edges and laid into the channel with no stretching tension. This is true of any "filet" section of graphic as these areas have such a high ratio of perimeter edge to adhesive bonding area. In no case should a deep channel, door handle depression or sharp wheel flair be installed as a continuous sheet of film.

Should edge lift occur, wait a week to be sure the decal is very dry, then trim away the curled section. The remaining edge will stay intact.