



Ink Printing on PEXIDAN® XLPE Systems

In general, polyolefins such as polyethylene and crosslinked polyethylene are difficult to print onto because these polymers are non-polar. SĀCO AEI's PEXIDAN® compounds fall into this category of polymers. Filler content can affect print adhesion, with unfilled materials being most difficult to print onto.

Tips for Achieving Best Adhesion and Permanency:

Having the insulation hot during printing improves adhesion, but one needs to make sure the insulation is cooled down before the insulated wire hits downstream sheaves as ink can be transferred to or smeared by the sheaves if the insulation is still hot. The same is true for other points of contact such as contact wipes. Printing on the insulation immediately after the crosshead and before the cooling water can improve adhesion, but this may not work well with contact printers as the insulation may be too soft and deformation is possible. This practice may be best employed with ink-jet printers.

The insulation must be perfectly dry when printed so air-wipes are usually needed. A flame, corona-discharge or plasma-arc unit can be an effective way of improving ink adhesion but all of them need to be kept away from highly-flammable ink and solvent. Discharge units are not widely used because of cost but seem to be gaining popularity, especially as line speeds increase. In general contact printers result in better adhesion but many customers prefer ink-jet printers for their speed, print flexibility, foot-marking capabilities and cleanliness.

As for the ink itself, SĀCO AEI believes that solvent-based inks adhere better and dry more quickly than water-based inks. While SĀCO AEI doesn't endorse any ink manufacturer, GEM Gravure has depth of experience in marking onto XLPE and seems to have good recommendations.

Finally, modifications to PEXIDAN® formulations by the customer, especially addition of process aids or surface 'slip' additives can definitely have adverse effects on ink adhesion and should be avoided.

The technical information contained herein is, to the best of our knowledge, believed to be accurate. However, SACO AEI Polymers makes no guarantee or warranty, and does not assume any liability, with respect to the accuracy or completeness of such information. Suitability of material for a specific final end use is the sole responsibility of the user. The data contained herein are typical properties only and are not to be used as specifications.

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