



NoriAmid[®] APM

One-Component Adhesion Promoter for IMD/FIM-Technology
(back molding of screen printed films)

Area of Application

Adhesion promoter NoriAmid[®] APM can be backmolded with ABS, PMMA and Polyamides such as PA6, PA6.6, PA11 and PA12.

Characteristics

NoriAmid[®] APM can be screen printed on following ink systems:

- NoriAmid[®]
- NORIPHAN[®] XWR
- NORIPHAN[®] XMR

Auxiliaries

Thinner M 210
Defoamer L 61693

Mesh Count

1x 100-40 threads/cm (255-40 threads/inch)

Only one print is sufficient, further layers will not improve the cohesion.

Process Window

When printing adhesion promoter NoriAmid[®] APM onto a two-component screen printing ink, a **processing window** has to be considered.

It is absolutely necessary to dry the printed ink layers completely to eliminate the **solvent residues**. This prevents from washout effects during injection molding.

For removal of the **solvent residues** and **increased stack resistance**, drying of every single full layer print (80 °C / 175 °F for 10 – 15 min.) is recommended. Drying time should not be exceeded.

But the drying period should not be exceeded, because too long drying of the final NoriAmid[®] layer can reduce the interlayer cohesion with adhesion promoter NoriAmid[®] APM.

For this reason, the final NoriAmid[®] ink layer should be dried only 10 min at 80 °C (175 °F) before overprinting with adhesion promoter NoriAmid[®] APM.

The printing sequence with decoration ink NoriAmid[®] and adhesion promoter NoriAmid[®] APM should be **finalized within one day (8 hours)**, especially the last full area decoration layer and adhesion promoter.

Outside the processing window, the peel strength values can shrink from 30 N/cm to 0.5 N/cm.

When using NORIPHAN[®] XWR or NORIPHAN[®] XMR as decorating ink together with adhesion promoter NoriAmid[®] APM on a PA film, the quantity of Hardener 004 in NORIPHAN[®] XWR / NORIPHAN[®] XMR should be reduced from 10 % to 6 %, as a higher amount shortens the process window.

Attention:

Decoration inks and adhesion promoter NoriAmid[®] APM should not be mixed together, because such mixtures are not compatible.

Final Drying Conditions

After applying adhesion promoter, **post-drying** (tempering) in a box oven (fresh air supply, 0.5 to 3 h at 90 °C / 195 °F) is necessary. This way, residual solvents are removed from NoriAmid® APM.

The relatively high temperature in the box oven accelerates the curing process of the ink.

The crosslinking reaction is crucial to the adhesion of the ink to the polyamide film.

The degree of crosslinking also promotes the washout resistance in the back molding process.

Forming

For good forming results a gap time of minimum 2 days after temperature storage is necessary.

Shelf Life

Allow the adhesion promoter to adjust to room temperature in the closed container before use.

The shelf life stated on the label assures the product's quality and refers to unopened original cans stored in a dry place at temperatures between 5 °C (40 °F) and 25 °C (75 °F).

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