



# Coating of PVC / Tarpaulin

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## Scope of the project

### market demand

- Strong demand for a coating that is fit for solvent and UV inc that is printed on PVC / Tarpaulin for commercial areas such as trucks and commercial banners.
- Current challenges are adhesion and lasting UV protection.
- Also scratch resistance is needed.

### Objectives

- R & D
- Develop a product that is suitable for solvent and UV inc.
- Adhesion
- Uv durability
- Cosmetic appearance / high gloss

### Test procedures

- Testing of different application methods such as :
- Robot
- Wals
- Manual
- Line.

## Material

### specifications

- 2K Acrylic Topcoat
- Resin base : 2 component acrylic

### product properties

- Very good weathering and yellowing resistance
- Very good surface hardness.
- Strong adhesion
- Good drying properties.
- Brilliant appearance
- Good build and flow.

### Test procedures

- Testing of different application methods such as :
- Robot
- Wals
- Manual
- Line.

## Test procedures

### Wals

- Testing was done at Giardina in Italy together with Imtechnology Holland.
- Test equipment : walse

### Market demands

- Very good weathering and yellowing resistance
- Very good surface hardness.
- Strong adhesion
- Good drying properties.
- Brilliant appearance
- Good build and flow.
- Flexibility

### Test procedures

- Testing of different application methods such as :
- Robot
- Wals
- Manual
- Line.

## Test evaluation

### Wals

- Testing was done at Giardina in Italy together with Imtechnology Holland.
- Test equipment : walse

### Material adjustment

Mix 1: 10:1 by weight with softace

Mix 2: 3:1+10% by weight  
hardener  
reducer

Viscosity DIN 4: 45"

### Test procedures

Roller application: 10 m/min. metering roller  
 Wet film build: 125  $\mu$ m  
 Material consumption: 40 g/m<sup>2</sup>

Oven drying: 3x 3 min.  
 75°C air temperature  
 11 m/min. air speed  
 Infrared medium power 100%  
 Reached Temperature of PVC tarpaulin:  
 115°C after 3 min.

120°C after 6 min.  
 120°C after 9 min.

## Test equipment



## Test equipment



## Test equipment





## Test equipment

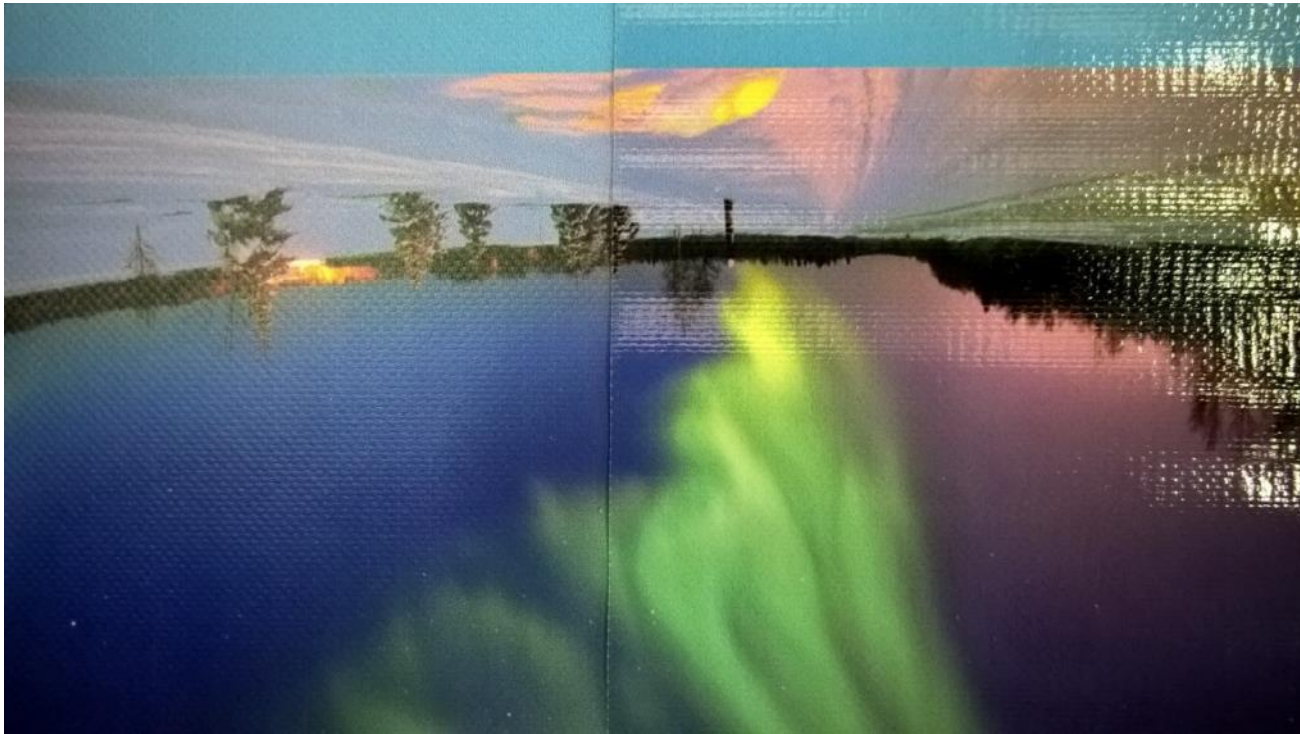


# Dry oven with infrared and hot air

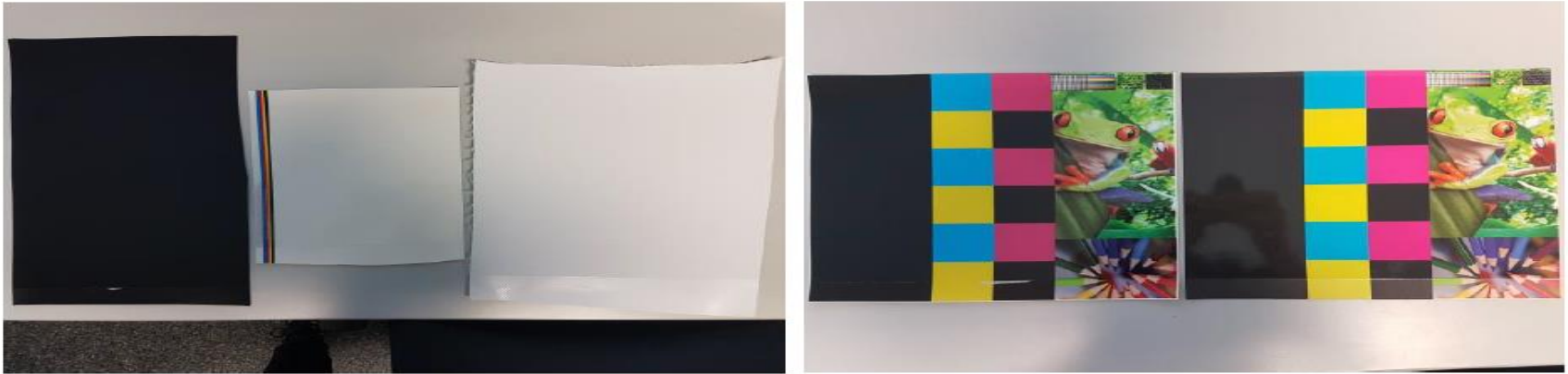
**AkzoNobel**



## Results



## Results



Cross-Cut on all Foils with 1mm : After 1 day = **GT0** / After 7 days=**GT0** / After 14 days= **GT0**  
The adhesion test shows a very good result on all foils.

The conducted cross cut test after 240 h constant climate test according to DIN EN ISO 6270-2 gave a result of 0–1, practically perfect bound to the substrate.

## Results

Comparison Accelerated Weathering Test (2000h WOM-Xenon-Test)  
According to DIN EN ISO 16474-1 March14  
DIN EN ISO 16474-2 March14

Gloss 60°		colour movement 45°
0 h	2000 h	2000 h
95,0	89,0	0,7