

FINAT
LABEL PRINTER FORUM
9th of November 2010



Detlef Machei

**Wash-off –
Technical aspects
and solution
with
UV-Acrylic adhesives**

FINAT
LABEL PRINTER FORUM
9th of November 2010



Detlef Machei

Agenda

- Short introduction Novamelt
 - wash-off idea
 - Adhesive requirements
 - Why UV-Acrylic HM- PSA?
 - Coating equipment
 - Face stock materials / wash-off process
 - Summary
-

FINAT LABEL PRINTER FORUM 9th of November 2010



Detlef Machei



FINAT
LABEL PRINTER FORUM
9th of November 2010



Detlef Machei

Wash-off – idea:

- Wet-glue standard
 - No-Label-Look construction
including wash-off for returnable bottles
 - Marketing aspects : Better appearance
> higher quality
-

FINAT LABEL PRINTER FORUM 9th of November 2010



Detlef Machei

	Wet glue labels	Permanent Label	Wash off label using UV-Acrylics
Face material	thin paper	paper/filmic	filmic
Label appearance	standard	standard/ high quality	high quality
Label transparency	no	no/yes	yes
Re-use ability of bottle	yes	no	yes

FINAT
LABEL PRINTER FORUM
9th of November 2010



Detlef Machei

Adhesive requirements

- Specific adhesion to glass
 - Transparent
 - Good anchorage to filmic materials
 - Consistent adhesion values
 - Wash-off without residues
-

FINAT
LABEL PRINTER FORUM
9th of November 2010



Detlef Machei

Why UV-Acrylic HM-PSA for wash-off
labels ?

FINAT LABEL PRINTER FORUM 9th of November 2010



Detlef Machei

	Rubber based HMPSA	UV-Acrylic HMPSA
Adhesive cost	+	+++
Adjustable adhesion profile	+++	++
Adhesion to polar surfaces	+++	+++

FINAT LABEL PRINTER FORUM 9th of November 2010



Detlef Machei

	Rubber based HMPSA	UV-Acrylic HMPSA
Adhesion to non polar surfaces	+++	+++
Adhesion to non polar humid surfaces	+++	++
Shear strength	+	++

FINAT LABEL PRINTER FORUM 9th of November 2010



Detlef Machei

	Rubber based HMPSA	UV-Acrylic HMPSA
Temperature resistance	++	+++
Die cutting properties	+++	+++
Water and moisture resistance	+++	++

FINAT LABEL PRINTER FORUM 9th of November 2010



Detlef Machei

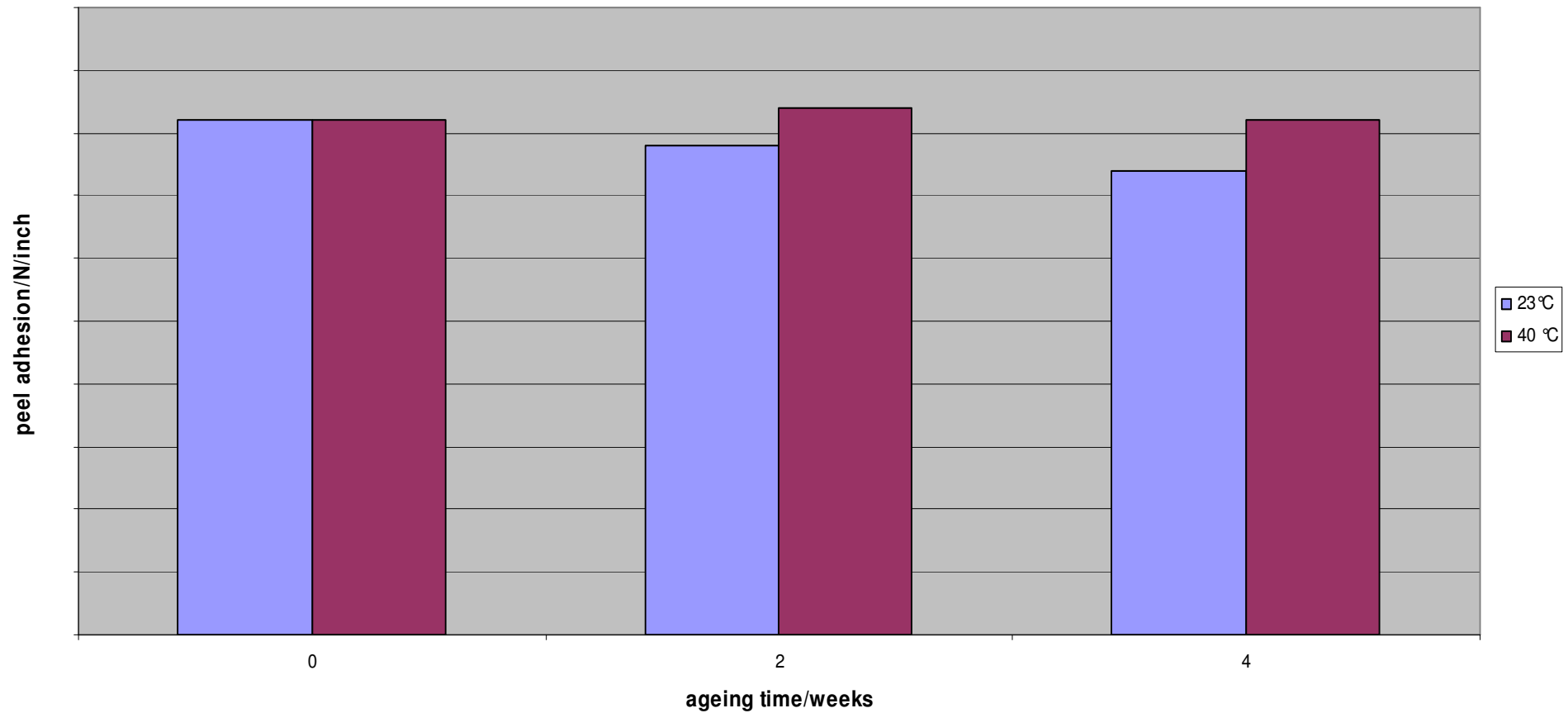
	Rubber based HMPSA	UV-Acrylic HMPSA
Investment cost for coating equipment	+	++

FINAT LABEL PRINTER FORUM 9th of November 2010



Detlef Machei

Ageing of UV-wash off adhesive on glass at 23 °C and 40 °C



FINAT
LABEL PRINTER FORUM
9th of November 2010



Detlef Machei

- Why UV-Acrylic HMPSA for wash-off ?
 - High transparency
 - Chemical resistance
 - UV resistance
 - Good adhesion to various materials
 - Excellent die cutting
 - Suitable for high speed labeling
-

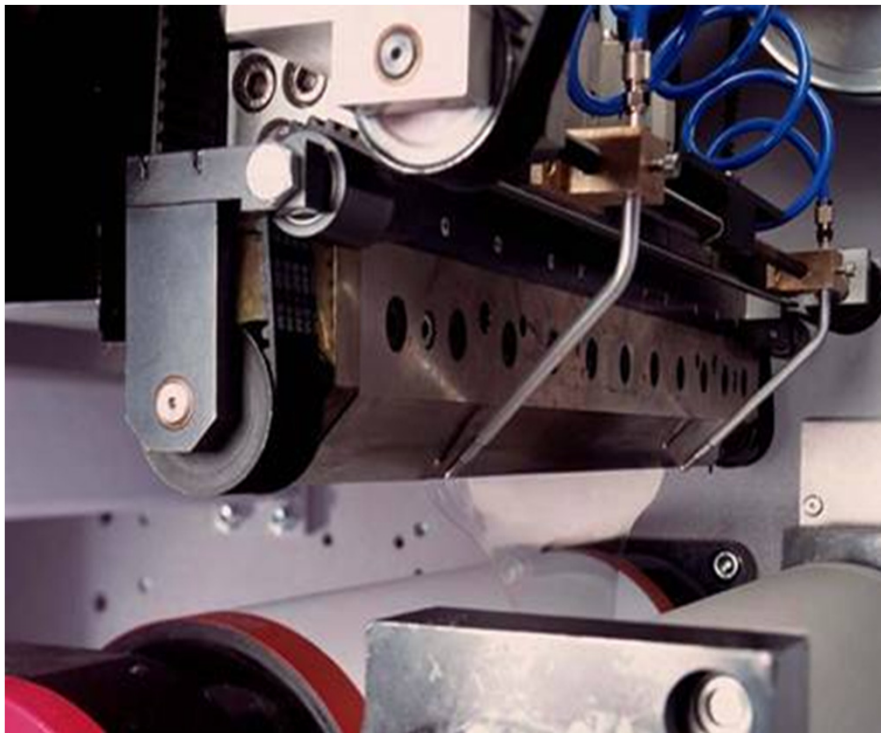
Wash off labels



- Typical NLL construction
 - Major influence of face material
 - Balanced adhesion/shear properties
 - Acceptable mandrell performance
 - Ice water test
 - Consistent wash off times
 - No peel increase on bottle over time
-

FINAT LABEL PRINTER FORUM 9th of November 2010

- Curtain- Coat



- Kiss- Coating



FINAT
LABEL PRINTER FORUM
9th of November 2010



Detlef Machei

- Face stock material
 - Shrinkable film
 - „Bi-metal“- films
 - Cellulose-films
 - (Different patents)
 - Wash-off process
 - 70 -80°C
 - Caustic solution
 - Time
 - No adhesive residues allowed
-

FINAT
LABEL PRINTER FORUM
9th of November 2010



Detlef Machei

- **Summary**
 - UV-Acrylic HMPSA's offer interesting combinations of properties for specific applications
 - Novamelt recommend UV-Acrylic HM-PSA for wash-off
-