



Washable adhesive for labels

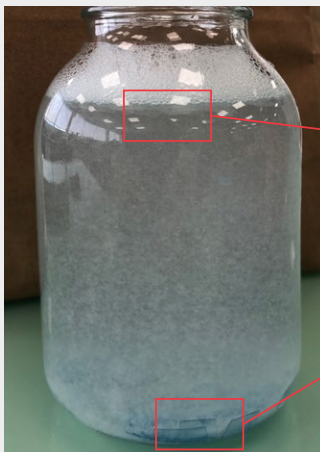
Enabling PSA label and PET bottle recycling

Washable pressure sensitive adhesive (PSA) requirements:

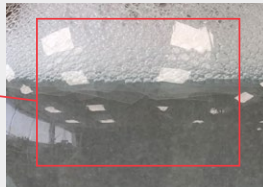
- Good adhesion to a variety of substrates
- Excellent visual appearance
- Moisture resistant (condensate water)
- Easy converting and processing
- Coating with diverse techniques
- Globally available
- Suitable for caustic wash recycling according to APR

After the washing process, the adhesive INVISU™ 7007 from Dow will be dispersed into small particles in a caustic bath allowing separation of the label film from the bottle. The label facestock film made from biaxially oriented polypropylene (BOPP) will float and the bottle PET flakes will sediment, while the dispersed adhesive particles will be coagulated and separated with other water contaminants from the water. (Additional Dow washing process improvement additives can be recommended.)

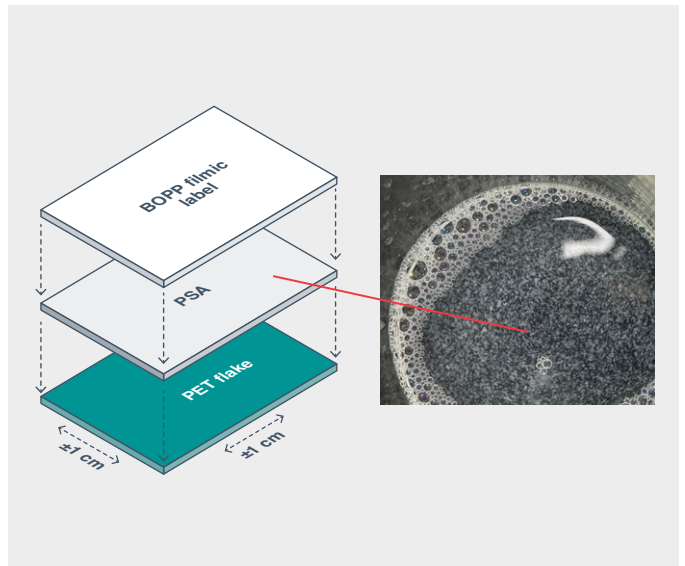
Dow's INVISU™ 7007 washable adhesive for PSA labels enables separation of all components in the structure for later recyclability.



BOPP filmic label floating on top of liquid



PET bottle flakes sinking in the liquid



INVISU™ 7007 adhesive properties

The washable adhesive INVISU™ 7007 coated with 17 gsm on treated BOPP film shows 100% washability, down from 85 °C, tested according to APR protocol for PET bottles.

The performance will vary based on the type of labeled PET substrate and label type PE vs BOPP.

Adhesive characteristics:

- Solid content = 58%
- pH = 7.5-8.5
- Brookfield viscosity LV 2@30 at 25 °C = 676 mPa.s
- Brookfield viscosity LV 3@30 at 25 °C = 740 mPa.s

Adhesive performance will vary based on the facestock, primer and adhesive coat weight.

FTM test according to FINAT		17 gsm INVISU™ 7007
Tests from glass plates		
FTM2; 90° peel adhesion 20 min	N/inch	4.5 AF
FTM2; 90° peel adhesion 24 hrs	N/inch	6.0 AF
FTM9; loop tack	N/inch ²	8.0 AF
FTM8; shear resistance 1"x1"/kg	hrs	40 CF
Tests from HDPE plates		
FTM2; 90° peel adhesion 20 min	N/inch	3.0 AF
FTM2; 90° peel adhesion 24 hrs	N/inch	4.0 AF

AF: adhesive failure
CF: cohesive failure

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