ALTEC
INDUSTRIAL IDENTIFICATION

Technical datasheet

P523

CHEMICAL RESISTANT LABEL

Description

A chemical resistant thermal transfer printable matt top-coated polyester film coated with a permanent pressure sensitive acrylic adhesive and backed with a glassine release liner.

Physical data

Typical physical properties			Typical value	Unit	Test Method
Film – PET	Thickness	±10%	50	Micron	ASTM D 3652
Topcoat	Thickness	±10%	25	Micron	ASTM D 3652
Adhesive	Thickness	±3%	24	Micron	ASTM D 3652
	Adhesion from:	Acrylic Acrylic powder paint Epoxy powder paint Glass Polyester powder paint Polypropylene Polyurethane powder paint Stainless steel	27 26 17 23 17 5 22 21	N / 25 mm	ASTM D 903 (72 hour dwell) Similar to FTM 1 (72 hour dwell)
	Shear		50 +	Hours	ASTM D 3564 Method A Similar to FTM 8**
	Probe tack		720	Gram / sq cm	ASTM D 2979
Liner	Thickness	±10%	56	Micron	ASTM D 3652
Complete construction	Service temperature		-40 to 100	°C	Matt top-coating may turn yellow under pronlonged high temperature exposure
	Application temperature		10	°C	

Printability

Suitable tor thermal transfer printing with AR-15 ink ribbon. High burn settings in combination with low print speeds are recommended to achieve maximum chemical resistance.

Expected exterior life

Expected exterior life dependant on substrate but label material is outdoor resistant for at least 2 years.

Storage

Material is stable tor two years stored at max 21 °C and 50% relative humidity. Damp conditions, excessive heat and/or freezing conditions should be avoided.

ALTEC industrial identification nv / sa
Zone Cargovil B60; Erasmuslaan 11
1804 Eppegem - Belgium

0032 2 270 34 88
info@altec.be
www.altec.be

Rub and immersion tests

Mechanical rub test Pressure applied 1kg weight

Crockmeter test method:
Test equipment Atlas CM-5
Test finger 25mm Ø acrytic test finger
Cloth size 50mm x 50mm
Printed barcodes are left for 24h
prior to any chemical resistance testing

1. attach 2 cotton cloths to test finger
2. soak with solvent using dropper
3. sample is rubbed back & forwards until print fades (max 100 rubs)
4. solvent is continuously dripped on the image to prevent evaporation (except brake fluid)

Excellent > 100 rubs | Good up to 70 rubs | Fair up to 30 rubs | Moderate up to 20 rubs

	White	Clear	Silver
MEK	Excellent	Excellent	Excellent
IPA	Excellent	Excellent	Excellent
XYLENE	Fair	Fair	Fair
ACETONE	Good	Good	Good
PETROL	Moderate	Moderate	Moderate
B FLUID	Excellent	Excellent	Excellent

Immersion test Period of immersion = 10 min.

Test method Samples applied to aluminium plates and placed in glass jar with appropriate solvent.
Half of the test plate was immersed to compare results.

Exposure cycle a) 10 min immersed - b) 30 min removed - 5 cycles where tested in total.

Evalutation After removing the samples from the solvents (each cycle), rub the wet area with paper clip at moderate pressure.
Once the sample is dried (before put back again), observe the exposed area, which WAS NOT rubbed for any change in T/C print appearance.

		White	Clear	Silver		White	Clear	Silver
B FLUID	**CYCLES 1-4**	No change	No change	No change	**CYCLE** 5	No change	No change	No change
DIESEL		No change	No change	No change		No change	No change	No change
MEK		No change	No change	No change		Smudged	Smudged	Smudged
PETROL		No change	No change	No change		Damaged	Damaged	Damaged

Immersion test Period of immersion = 24 hr.
We also carried out 24hr immersion tests followed by 20 rubs with paperclip

	White	Clear	Silver
ACETONE	No change	No change	No change
B FLUID	No change	No change	No change
XYLENE	Damaged (after 20 rubs)	Damaged (after 20 rubs)	Damaged (after 20 rubs)

Blocking tests : Material was tested for 72h at 71 °C with 1Kg weight. The material showed no signs of blocking.

Outdoor resistance : 2 years (Material was tested tor 800h (Sol test) and showed no signs of change)

Heat age testing : Please note that this material shows signs of yellowing at temperatures above 120°C after prolonged exposure.

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Chemical resistance

Test Method: ASTM 0896 All testing at room temperature, 24 hour dwell on stainless steel panel before immersion - 5 cycles of 10 minutes in solvent, 30 minutes recovery on stainless steel panel (24 hour recovery after last cycle) vs 72 hours on stainless steel panel at room temperature.

Glass cleaner	No visual change or adhesion loss
Isopropyl alcohol	No visual change or adhesion loss
Gasoline	No visual change, 30% adhesion loss
Toluene	No visual change, 25% adhesion loss
Oil (SAE 10W-30)	No visual change or adhesion loss
Acetic Acid (5%)	No visual change or adhesion loss
Water	No visual change or adhesion loss

Humidity resistance

Test method - on stainless steel panel at 38°C and 95% relative humidity vs 72 hour on stainless steel panel at room temperature.

1 day + 15 min recovery	No visual change or adhesion loss
1 day + 24 hour	No visual change or adhesion loss
7 days + 15 min recovery	No visual change or adhesion loss
7 days + 24 hour recovery	No visual change or adhesion loss
3 day water immersion + 24 hour recovery	No visual change, 30% adhesion loss

Compliance

RoHS

Material meets RoHS requirements (2002/95/EC), IMDS data available upon request.

UL

969 approved CUL pending

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