EC-13 series
Technical data sheet

EC-13 - series of products contain a roll of labels and a roll of thermal transfer ribbon.
White polyester labels are designed for extreme chemical resistance. Adhesive is a high strength permanent acrylic adhesive featuring high initial tack, adhesion and shear which is used for difficult substrates, including low surface energy plastics and coatings. It features high chemical and temperature resistance. This product is specially designed for labeling durable goods where resistance to extremely aggressive chemicals is required. The facematerial has been specifically engineered to accept the RESIN CU ribbon and stay anchored even when exposed to chemicals such as Isopropyl alcohol (IPA), acetone and gasoline. The main area of application for this product is automotive, industrial and laboratory labeling where prolonged exposure to aggressive chemicals is expected. This product is used when an adhesive combining high adhesion on difficult substrates combined with high chemical and temperature resistance is required.
The thermal transfer outsprint is legible and durable, resistant to abrasion, water and temperature.

Solution

Solvent and chemicals resistant solution

Products

Labels for microscope slides

Table 1. Face stock technical data

Not for specification purposes

FACE STOCK TECHNICAL DATA	
Material	Polyester
Color	White
Appearance	Matt
Caliper	56µm

Table 2. Adhesive technical data

Not for specification purposes

ADHESIVE TECHNICAL DATA		
Adhesive	Acrylic	
Initial Tack	1040 N/m	FTM 9
Peel Adhesion 90° (24h)	560 N/m	FTM 2
Minimal Application Temperature	+7°C	
Service Temperature	-40°C to +150°C	

Table 3. Peel adhesion

Not for specification purposes

PEEL ADHESION FTM1 (180°C, 300mm/min, dwell time: 48 hours)	
Surface	**N/25mm**
ABS	18,5
Aluminium	17,0
Automotive Lacquered Panels	18,0
Glass	20,5
HDPE	11,3
LDPE	9,0
PA6	19,0
Stainless Steel	19,0

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Table 4. Chemical Resistance of Material

Not for specification purposes

CHEMICAL RESISTANCE The performance results are based on 4 hours immersion at room temperature unless otherwise noted. Samples were applied to the test panel and conditioned for 24 hours before immersion and evaluated immediately upon removal. Peel adhesion was measured according to FTM1				
Chemical	**Test substrate**	**N/25mm**	**Visual appearance**	**Edge penetration mm**
AdBlue	Aluminum	15,8	No change	0
Biodiesel	Glass	19,7	No change	0
Bioethanol E85	Glass	14,7	No change	2
Brake fluid	Glass	20	No change	0
Diesel	Glass	19,2	No change	0
Engine oil	Glass	19,7	No change	0
Gasoline	Glass	10,2	No change	6
Heptanes	Glass	12,5	No change	4
Water distilled	Aluminum	15,1	No change	0

Table 5. Ribbon technical data

Not for specification purposes

RIBBON TECHNICAL DATA	
Type	Resin
Color	Black
Film thickness	4,5 µm
Total ribbon thickness	9 µm
Recommended maximum print speed	150 mm/s

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Table 6. Chemical Resistance of Overprinting

Not for specification purposes

CHEMICAL RESISTANCE

The material was printed with the TT ribbon RESIN CU. Printed samples were rubbed 500 times (250 double strokes) with a 200 grams weight covered by a cotton fabric soaked in the solvent. Visual examination took place.

Chemical	Number of double strokes	Fading of print	Performance
Ethanol	250	No	+++
IPA	250	No	+++
Gasoline SP95	250	Start after 85 double strokes	++
Diesel	250	No	+++
Brake fluid	250	No	+++
Engine oil	250	No	+++
Windshieldwasher	250	No	+++
MEK	250	Start after 85 double strokes	++
Xylene	250	No	+++
Toluene	250	No	+++
Acetone	250	No	+++
Hexane	250	No	+++

+++ excellent / ++ good

Shelf Life

24 months from date of manufacture of product when properly stored at 22°C and 50% relative humidity.

Special Considerations

For maximum bond strength, the surface should be clean and dry. Typical cleaning solvents are heptane and isopropyl alcohol.

Note

Information presented have been determined by standard test methods and are values not to be used for specification purposes. Our recommendations on the use of our products are based on tests but we would ask for conducting your own tests to determine their suitability for your applications. Citizen cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.

Solution

Solvent and chemicals resistant labels

Products

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