High Temperature Resistant Labelstock 3922.DSL

Product Data Sheet

Issued: August 2002
Supersedes: August 2001

Description:

High temperature resistant labelstock 3922.DSL is recommended for thermal transfer imaged labelstock applications where a high durability and superb resistance against highest application temperature is required.

The acrylic based film is resistant to outdoor weathering, UV-light and many solvents as well as being dimensionally stable.

The matte white facestock provides a very good contrast which leads to a high first readability rate; even of high density BARCODES.

Lower adhesive coat weight and double sided siliconised liner to facilitate excellent conversion and dispensing whilst maintaining excellent adhesion properties.

Physical Properties
Not for specification purposes
(Calipers are nominal values)

Film	50 µm White matte cast acrylic film
Adhesive	20 µm # 150 Crosslinked acrylate adhesive
Liner	75 micron 90g/m² double sided siliconeised, Tan glassine
Shelf Life	24 months from date of manufacture by 3M when properly stored at 22°C & 50 % Relative Humidity

Physical Properties
Not for specification purposes

Minimum Application Temperature	+15°C
Elongation	5% - 15%
Tensile Strength	> 30N/25mm (Test conditions: DIN50014 on tensile tester according to DIN51221/DIN51220; 300mm/min, 100mm Film length)
Dimensional Stability (DIN30646)	< 0.2 %
Temperature Resistance	High temperature resistance *300°C (60 sec) No change *200°C (60 min) No change *80°C (14 days) No change
	A slight yellow tinge may occur after times listed. The temperatures have no impact on the form stability of the film.
	Low Temperature Resistance -40°C (7 days) No change
Weather Resistance	Accelerated weathering in Xenon tester (in accordance with DIN 30646) 2000 hours : No Change

Adhesion

FINAT FTM 2 72 hrs dwell time, 300mm/min. Pullback 90° Angle.	Substrate	N/10mm
	PCB solder mask	2.5
	Afera Steel	5.4
	Aluminium	6.7
	ABS	7.2
	PP	3.0
	PVC	4.0
	PC	5.0

The adhesion on Printed Circuit Boards is depending on the used lacquer system. (Test conditions in accordance with FINAT FTM 2, 72 hours dwell time, 300mm / min Pull Back, 90° angle).

Chemical & Solvent Resistance

Film applied onto PCB panels 1 hour prior to immersion and evaluated directly after the test. Duration of immersion, 10 minutes at room temperature.

Xylo	No change
n-Heptane	No change
Ethanol	No change
Isopropanol	No change
Water	No change
Sulphuric Acid (30%)	No change
Caustic Soda (10%)	No change
Trichloroethane 1,1,1	No change
Toluene (5 minutes)	No change

* The film is not resistant to harsh fluorine-chlorine.

Abrasion Resistance

Grinding wheel:	CS10
Load :	500g
1000 cycles	no surface damage

Processing

Printing:
High temperature resistant labelstock 3922.DSL is recommended for screenprinting processes using appropriate inks from suppliers like Wiederhold, Marabu etc. Both UV and solvent-based inks are suitable. Sheet screenprinting must be evaluated depending on size and actual conditions. Flexographic, letterpress and offset printing methods can be considered but should be evaluated on a case to case basis.

Cutting:
High temperature resistant smooth, hard, caliper controlled liner with very good kiss cutting characteristics. Weed stripping is recommended using a 25 mm idler. For better handling we recommend label formats with "rounded" corners.

Application:
All surfaces must be clean and dry and at ambient temperature of over 10°C.
High temperature resistant labelstock 3922.DSL has been developed for application to smooth surfaces.

Storage:
Unprocessed films: at least two years and Processed labels: one year.

Films and labels must be stored in a clean area free of excessive moisture and direct sunlight of room temperature. Processed labels should be stored in Polyethylene bags, 0.1 mm thickness, to protect against moisture fluctuations.

Processing Contd.…

Thermal Transfer:
High temperature labelstock 3922.DSL offers an ideal surface for Thermal **Imageability.**

Transfer Printing.
This technology provides excellent covering power combined with the capability of uniform surface coverage. It also allows the individual printing of high density BARCODES beyond standard labelling applications.

The quality of the printing is dependent on the printer/ribbon combination. Good results have been obtained with the following ribbons:

Armor AXR 7+
ICS- CC-4099-1
Ricoh B.110 C
Ricoh B.110 CX
Ricoh B.110 A
Sony 4070
Sony 5070
Japan Pulp and Paper JP Resin 1

Parameters:
New printer/ribbon combinations should be evaluated beginning with lowest printing speed and highest burn temperature. Printing speed and burn temperature can be then successively increased/reduced.

U.L. recognized file MH18072

3M Italia Srl
Adesivi e Nastri per l'Industria
Sistemi di Identificazione
Via Norberto Bobbio, 21
20096 PIOLTELLO MI
TEL.02.70351