Product Construction Sheet

THERMLfilm® CHEMGARD SERIES

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

This material is UL recognized UL file No. MH 16635 (N) / CSA – C22.2 No 0.15 or contact your FLEXcon Representative.

THERMLfilm® CHEMGARD PM 200 W MTC-342 L-606 40GL	**WHITE**	PET-DWWE-6C09S/24
THERMLfilm® CHEMGARD PM 200 C MTC-342 L-606 40GL	**CLEAR**	PET-DCWE-6C09S/24
THERMLfilm® CHEMGARD MM 200 S MTC-342 L-606 40GL	**SILVER**	PET-DUWE-6C09A/24

THERMLfilm is a registered trademark of FLEXcon.

Typical Physical Properties*		**Typical Value**	**Unit**	**Test Method**
FILM – PET	Thickness	50	Micron	ASTM D 3652
ADHESIVE	Thickness	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 23	N / 25mm	FTM 1 (72 hour dwell)
	Shear	50 +	Hours	FTM 8 (1 hour dwell on stainless steel with a 2kg weight)
	Probe Tack	720	gram/sq cm	ASTM D 2979
LINER	Thickness	56	Micron	ASTM D 3652
COMPLETE CONSTRUCTION	Service Temp	-40 to 125	°C	
	Application Temp	10	°C	

Converting Recommendations
Suitable for thermal transfer printing with RICOH B110CU resin ribbons. High burn settings in combination with low print speeds are recommended to achieve maximum chemical resistance.

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

Additional Information
Expected exterior life dependant on substrate but label material is outdoor resistant for at least 2 years.
Material meets REACH and RoHS requirements (2002/95/EC), IMDS data available upon request.
Please contact your customer service representative for the latest version of this Product Construction Sheet.

***All technical data presented should be considered representative or typical only and should not be used for specification purposes.**

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TOPCOAT MTC - 342

RICOH B110CU resin ribbon

Mechanical Rub Test (Pressure applied 1kg weight)*

Crockmeter Test Method:

Test equipment Atlas CM-5
Test finger 25mm Ø acrylic 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 Tests (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.
Evaluation: 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.

	CYCLES 1-4 White	CYCLES 1-4 Clear	CYCLES 1-4 Silver	CYCLE 5 White	CYCLE 5 Clear	CYCLE 5 Silver
B FLUID	No change	No change	No change	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 Tests (period of immersion = 24h)*

We also carried out 24h 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 for 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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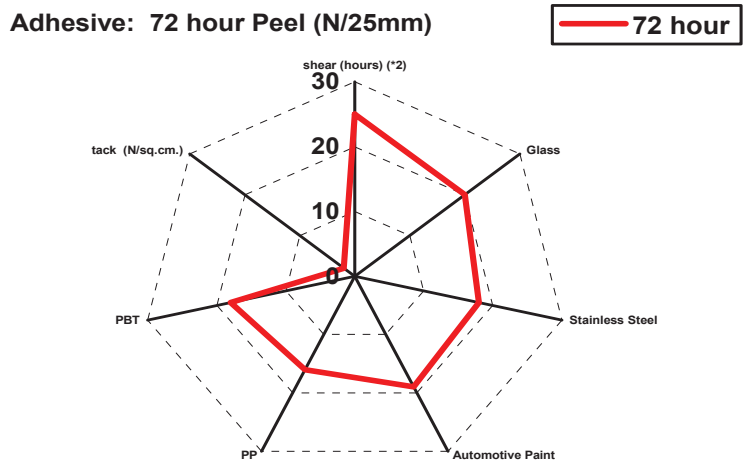
ADHESIVE V-606

Chemical Resistance*
Test Method: ASTM D896 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 recovery	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



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Product Performance and Suitability
All of the descriptive information, the typical data, and recommendations for the use of FLEXcon products shall be used only as a guide and do not reflect the specification range for any particular property of the product. Furnishing such information is merely an attempt to assist you after you have indicated your contemplated use and shall in no event constitute a warranty of any kind by FLEXcon. All purchasers of FLEXcon products shall be responsible for independently determining the suitability of the material for the purpose for which it is purchased. No distributor, salesman or representative of FLEXcon is authorized to give any warranty, guaranty or make any representation in addition to or contrary to the above.

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