

# RESCO

# ChemLab

High use Chemical grade



## PRODUCT SPECIFICATION

Resco's ChemLab is the ultimate laboratory benchtop for high chemical use. The Electron Beam Cured (EBC) surface, gives it an extra stain resistance and high hygiene, making it the only choice for demanding laboratory environments.

Check our comprehensive test results in section 4 and speak to our team to ensure the right choice for your particular application.

For more information please discuss with our customer service team on 0800 800 950 or visit [www.resco.co.nz/chemlab](http://www.resco.co.nz/chemlab)



### PRODUCT CHARACTERISTICS:

Colours -	Black (stocked), White and Grey (lead time applies)
Thickness -	16mm
Chemical resistance is	Single side
Core colour -	Black
Panel Dimensions -	3670 x 1530mm

### Section I: Product and Company Identification

#### Manufacturer:

Maica Laminates Sdn Bhd  
5100, Lorong Mak Mandin 5  
Mak Mandin Industrial Estate  
13400 Butterworth, Penang, Malaysia.

#### New Zealand Panel Distributor and Processing:

Resco Ltd  
12 Kahu Cres, Te Rapa Park  
Hamilton  
New Zealand  
Tel: +64-7 850 1025  
0800 800 950

### PRODUCT DESCRIPTION:

<b>ChemLab</b> conforms with the specifications as stated in the EN 438-4:2005.
<b>ChemLab</b> is a panel with a thickness 2mm and greater.

## RESCO CHEMLAB PRODUCT SPECIFICATION

### Section 2: Inspection Requirement Specifications

<b>GENERAL INSPECTION REQUIREMENTS:</b>			
<b>Viewing distance</b>	Approximately 150cm.		
<b>Light conditions</b>	Intensity 800 - 1000 lux over the whole area.		
<b>Light type</b>	Overhead white fluorescent lights, of colour temperature approximately 5000 K.		
<b>INSPECTION REQUIREMENTS OF COLOUR, PATTERN AND SURFACE FINISH:</b>			
<b>Colour and Pattern</b>	When inspected in daylight or D65 standard illuminant, and under tungsten illuminant, there shall be no significant difference between the corresponding colour or pattern reference sample held by the supplier and the specimen under test.		
<b>Surface Finish</b>	When inspected at different viewing angles, there shall be no significant difference between corresponding surface-finish reference sample held by the supplier and the specimen under test.		
<b>VISUAL INSPECTION:</b>			
<b>Dirt, spots and similar surface defects</b>	Max. 1 mm <sup>2</sup> /m <sup>2</sup> and is proportional to the sheet size. Total admissible area of contamination may be concentrated in one spot or dispersed over an unlimited amount of smaller defects.		
<b>Fibres, hairs and scratches</b>	Max. 10 mm/m <sup>2</sup> and proportional to the sheet size. Total admissible area of contamination may be concentrated in one spot or dispersed over an unlimited amount of smaller defects		
<b>Edge quality: chipping</b>	Max. 3mm / side		
<b>DIMENSIONAL TOLERANCES:</b>			
<b>Property</b>	<b>Test method (EN 438-2:2005, clause no.)</b>	<b>Unit</b>	<b>Values</b>
<b>Thickness</b>	5	mm (max.)	13.0 mm : ± 0.60 mm 16.0 mm : ± 0.70 mm (t = nominal thickness)
<b>Flatness a)</b>	9	mm/m (max.)	2.0 ≤ t < 6.0 mm :8.0 mm/m 6.0 ≤ t < 10.0 mm :5.0 mm/m 10.0 mm ≤ t :3.0 mm/m (t = nominal thickness)
<b>Length and width b)</b>	6	mm	- 0 / + 10 mm
<b>Straightness of edges b)</b>	7	mm/m (max.)	1.5 mm/m
<b>Squareness b)</b>	8	mm/m (max.)	1.5 mm/m
<b>a)</b>	Provided the laminates are stored in the manner and conditions recommended by the manufacturer, they shall comply with the flatness requirements specified in the above table when measured in accordance with EN 438-2, Clause 9. The flatness values specified in the above table apply to laminates with two decorative faces. Limits for laminates with one face sanded shall be agreed between supplier and customer.		
<b>b)</b>	Tolerances for cut-to-size panels shall be agreed between supplier and customer.		

## RESCO CHEMLAB PRODUCT SPECIFICATION

### Section 3: ChemLab General Requirement

<b>GENERAL SPECIFICATIONS:</b>				
Property	Test method (EN 438-2: 2005, clause no.)	Property or attribute	Unit (min. or max.)	Values
<b>Resistance to Surface Wear</b>	10	Wear Resistance	Revolutions (min.) Initial point Wear value	150 300
<b>Resistance to Impact by Large Diameter Ball</b>	21	Drop Height a)	mm (min.) $2 \leq t < 6$ $6 \leq t$ (t = nominal thickness)	1400 1800
<b>Resistance to Scratching</b>	25	Force	Rating (min.) Textured finishes	3
<b>Resistance to Dry Heat (180 °C)</b>	16	Appearance	Rating (min.) Textured finishes	4
<b>Resistance to Wet Heat (100°C)</b>	EN12721:1997	Appearance	Rating (min.) Textured finishes	4
<b>Resistance to Immersion in Boiling Water</b>	12	Mass increase	%(max.) $2\text{mm} \leq t < 5\text{mm}$ $t \geq 5\text{mm}$	5.0 2.0
		Thickness Increase	%(max.) $2\text{mm} \leq t < 5\text{mm}$ $t \geq 5\text{mm}$ (t= nominal thickness)	6.0 2.0
		Appearance	Rating (min.) Textured finishes	4
<b>Dimensional Stability at Elevated Temperature</b>	17	Cumulative Dimensional Change	% (max) $2\text{mm} \leq t < 5\text{mm}$ L <sup>b)</sup> $2\text{mm} \leq t < 5\text{mm}$ T <sup>c)</sup> $t \geq 5\text{mm}$ L $t \geq 5\text{mm}$ T (t= nominal thickness)	.40 .80 .30 .60
<b>Resistance to Staining</b>	26	Appearance	Rating (min.) Groups 1 & 2 Group 3	5 4
<b>Lightfastness (Xenon Arc)</b>	27	Contrast	Grey scale rating	4 to 5
<b>Resistance to Water Vapor</b>	14	Appearance	Rating (min.) Textured finishes	4
<b>Resistance to Cigarette Burns</b>	30	Appearance	Rating (min.)	3
<b>Resistance to Crazing</b>	24	Appearance	Grade (min.)	4
<b>Flexural Modulus</b>	EN ISO 178	Stress	Mpa (min.)	9000
<b>Flexural Strength</b>	EN ISO 178	Stress	Mpa (min.)	80
<b>Tensile Strength</b>	EN ISO 527	Stress	Mpa (min.)	60
<b>Density</b>	EN ISO 1183	Density	Kg/ m <sup>3</sup> (min.)	1350
	a)	When tested at the specified drop height, the diameter of indentation shall not exceed 10mm		
	b)	L = in the longitudinal (or machine) direction of the fibrous sheet material (normally the direction of the longest dimension of the laminate).		
	c)	T = in the cross-longitudinal (cross-machine) direction of the fibrous sheet material (at right angles to direction L).		

## RESCO CHEMLAB PRODUCT SPECIFICATION

### Section 4: Chemical Resistance

#### TEST METHOD:

The test was conducted by applying 2 or 3 drops of each reagent on the specimen surface. The reagent shall be at room temperature. Cover the reagent with a glass cover.

After a period of 24 hours contact time under room temperature, the glass cover was removed. The reagent was rinsed off with water. Then the specimen surface was inspected and evaluated from various angles at a distance of 400mm.

#### RATING

<b>No effect:</b>	No visible change of colour/ corrosion/ damage on surface
<b>Excellent:</b>	Very slight change of colour, only visible at certain viewing angles
<b>Good:</b>	Slightly change of colour on surface
<b>Fair:</b>	Moderate change of colour on surface
<b>Failure:</b>	Corrosion/ damage on surface

Group	%	No Effect	Excellent	Good	Fair	Failure
<b>24-hour Contact Time</b>						
<b>Acids</b>						
Acetic Acid	98	■				
Acetic Acid	100	■				
Dichromate Acid	5	■				
Chromic Acid	60	■				
Formic Acid	90	■				
Hydrochloric Acid	10	■				
Hydrochloric Acid	37	■				
Hydrofluoric Acid (A)	48				■	
Nitric Acid	20	■				
Nitric Acid	30	■				
Nitric Acid	65		■			
Nitric Acid	70		■			
Nitric Acid 65%: Hydrochloric Acid 37% b)	1:3			■		
Perchloric Acid	60	■				
Phosphoric Acid	85	■				
Sulphuric Acid	25	■				
Sulphuric Acid	33	■				
Sulphuric Acid	77	■				
Sulphuric Acid	85	■				
Sulphuric Acid	96		■			
Sulphuric Acid	98		■			
Sulphuric Acid 77% : Nitric Acid 70%	1:1		■			
Sulphuric Acid 85% : Nitric Acid 70%	1:1		■			
<b>Bases</b>						
Ammonium Hydroxide	28	■				
Sodium Hydroxide	10	■				
Sodium Hydroxide	20	■				
Sodium Hydroxide	40	■				
Sodium Hydroxide Flake	-	■				

RESCO CHEMLAB PRODUCT SPECIFICATION - Section 4 Continued

Group	%	No Effect	Excellent	Good	Fair	Failure
<b>Biological Stains</b>						
Acridine Orange (c)	1		■			
Alizarin Complexone Dihydrate	1	■				
Aniline Blue (Water Soluble)	1	■				
Basic Fuchsin	1		■			
Carbol Fuchsin	1			■		
Carmine	1	■				
Eosin B	1	■				
Gentian Violet (Dye)	1	■				
Giemsa Stain	1	■				
Kongo Red (d)	1		■			
Malachite Green Oxalate	1	■				
Methyl Violet 2B	1	■				
Methylene Blue	1	■				
Safranin O	1	■				
Sudan III	1	■				
Wright Stain	1	■				
<b>Halogens</b>						
Iodine 0.1N [e]	-			■		
Iodine Crystal [F]	-				■	
Tincture of Iodine [G]	-				■	
<b>Salts</b>						
Iron (III) Chloride	10	■				
Copper Sulphate	10	■				
Potassium Iodide	10	■				
Potassium Permanganate	10				■	
Silver Nitrate	1	■				
Silver Nitrate [h]	saturated			■		
Sodium Chloride	10	■				
Sodium Hypochloride	13	■				
Sodium Sulfide	saturated	■				
Zinc Chloride	saturated	■				
<b>Organic Chemicals</b>						
Amyl Acetate	-	■				
Benzene	-	■				
Cresol	-	■				
Dimethylformamide	-	■				
Formaldehyde	37	■				
Furfural [I]	-			■		
Gasoline	-	■				
Hydrogen Peroxide	30	■				
Methyl Ethyl Ketone	-	■				
n-Butyl Acetate	-	■				
Phenol	90	■				
Xylene	-	■				

## RESCO CHEMLAB PRODUCT SPECIFICATION - Section 4 Continued

Group	%	No Effect	Excellent	Good	Fair	Failure
<b>Solvents</b>						
Acetic Anhydride	-	■				
Acetone	-	■				
Acetonitrile	-	■				
Butyl Alcohol	-	■				
Carbon Tetrachloride	-	■				
Chloroform	-	■				
Dichloro Acetic Acid	-	■				
Dichloromethane	-	■				
Diethyl Ether	-	■				
Dioxane	-	■				
Ethyl Alcohol	-	■				
Ethyl Acetate	-	■				
Ethylene Glycol	-	■				
n-Hexane	-	■				
Methyl Alcohol	-	■				
Methylene Chloride	-	■				
Methylisobutylketone	-	■				
Mono Chlorobenzene	-	■				
Naphthalene	-	■				
Tetrahydrofuran	-	■				
Toluene	-	■				
Trichloroethylene	-	■				

### NOTES:

The results of the chemical test in the chart above is based on the lowest result achieved for three different ChemLab products: Black, White and Grey. The individual exceptions to the results are as below (please refer to indications on the chart):

Item	Group	%	Black	White	Grey
A	Hydrofluoric Acid	48	Excellent	Fair	Excellent
B	Nitric Acid 65%: Hydrochloric Acid 37%	1:3	Excellent	Good	Good
C	Acridine Orange	1	No Effect	No Effect	Excellent
D	Kongo Red	1	No Effect	No Effect	Excellent
E	Iodine 0.1N	-	No Effect	Good	Good
F	Iodine Crystal	-	Excellent	Fair	Fair
G	Tincture of Iodine	-	Excellent	Fair	Fair
H	Silver Nitrate	Saturated	No Effect	No Effect	Good
I	Furfural	-	Excellent	Good	Good