

SMART TOP



UP TO
180°C

**HEAT
RESISTANCE**



**WEAR
RESISTANCE**



**HIGH
DENSITY**



**UV
RESISTANCE**



**HIGH SCREW
HOLDING
CAPACITY**



**WATER
RESISTANCE**



**PEEL
RESISTANCE**



**STAIN
RESISTANCE**



**JOINTLESS
EDGE**



**IMPACT
RESISTANCE**



**MINIMUM
MAINTENANCE**





CONSUMER PRODUCTS SERVICES DIVISION

SMART TOP SURFACE SOLUTION SDN BHD

Technical Report: (1219)196-0019
Date Received: July 15, 2019

Initial Report Date

July 25, 2019

Page 1 of 3


MS. HOW/ MR. ANDY
5R TECHNOLOGIES SDN BHD
LOT 5753, KM13, JALAN BAKRI,
84200 MUAR, JOHOR,
MALAYSIA

Sample Description:	HIGH PRESSURE LAMINATED (HPL) TABLE TOP		
Manufacturer:	5R TECHNOLOGIES SDN BHD	Agent:	/
Buyer:	SMART TOP SURFACE SOLUTION SDN BHD	Model/ Style:	/
Country of Origin:	/	Country of Destination:	/
Color:	/	PO No.:	/
Test Requested:	DENSITY TEST (CPSD-HL-01056-MTHD / STANDARD MEASURE)	SKU No.:	/
Previous Report No.:	/	Product Code:	/

EXECUTIVE SUMMARY:

The sample(s) was tested to the following requirement(s) and the data provided is for informational purposes only:

- Density Test- CPSD-HL-01056-MTHD / Standard Measure

TECHNICAL QUESTIONS	Mohd Azahar (607) 558 7266 azahar.mohd@my.bureauveritas.com	SIGNATURE	Bureau Veritas CPS Sdn Bhd 
GENERAL INFORMATION	Evon Chong (607) 558 7266 evon.chong@my.bureauveritas.com		Siti Dzulaiha
PREPARED BY ENGINEER	Siti Dzulaiha		



TEST RESULT(S):

Evaluation	Citation / Method	Result	Rating
Density Test	CPSD-HL-01056-MTHD / Standard measure	Density = 823.62 kg/m ³	DATA

Rating Key:

DATA Data





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VERITAS**

CONSUMER PRODUCTS SERVICES DIVISION

SMART TOP SURFACE SOLUTION SDN. BHD.

Technical Report: (1216)298-0003
Date Received: October 24, 2016

Initial Report Date: October 31, 2016
Page 1 of 3

MR. SEE
SMART TOP SURFACE SOLUTION SDN. BHD.
LOT PTD 10630 & 10631, JALAN KEMPAS 3,
KAWASAN PERINDUSTRIAN BAKRI, JALAN BAKRI BATU 8,
84200 BUKIT BAKRI, MUAR, JOHOR,
MALAYSIA

Sample Description:	COLOR PANEL SUBMITTED		
Manufacturer:	/	PO No.:	/
Buyer:	/	Style:	/
Country of Origin:	/	Country of Destination:	USA
Color:	/	SKU No.:	/
Test Requested:	FURNITURE - ASSESSMENT OF SURFACE RESISTANCE TO COLD LIQUIDS (BS EN 12720:2009)	UPC Code:	/
Previous Report No.:	/	Lot No.:	/

EXECUTIVE SUMMARY:

The sample(s) was tested to the following requirement(s) and the data provided is for informational purposes only:

- The requirement of BS EN 12720:2009 + A1: 2013 Furniture - Assessment of Surface Resistance to Cold Liquids.

BUREAU VERITAS CPS SDN BHD

Technical Inquiries: Koo Chieh Voon Tel: 607-5587266 ext 108
email: chiehvoon.koo@sg.bureauveritas.com

PREPARED BY:

MOHD SALEHAN
TESTING ENGINEER

APPROVED BY:


KOO CHIEH VOON
HARDLINE ASSISTANT MANAGER

Bureau Veritas CPS Sdn Bhd

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TEST RESULT:

FINISH PERFORMANCE BS EN 12720:2009 + A1: 2013

TEST	RATING REQUIREMENT	RESULT/RATING	COMMENTS	CONCLUSION
BS EN 12720 : Resistance to marking by liquids (1 hour covered)				
Ethanol 96%	-	5	No change	DATA
Coffee	-	5	No change	DATA
Paraffin oil	-	5	No change	DATA
BS EN 12720 : Resistance to oils and fats (24 hours uncovered)				
Oils (solid vegetable oil)	-	5	No change	DATA

Descriptive numerical rating code:

Rating	Description
5	No change Test area indistinguishable from adjacent surrounding area.
4	Minor change Test area indistinguishable from adjacent surrounding area, only when the light source is mirrored on the test surface and is reflected towards the observer's eye, e.g. discoloration, change in gloss and color No change in the surface structural, e.g. deformation, swelling, fiber raising, cracking, blistering.
3	Moderate change Test area indistinguishable from adjacent surrounding area, visible in several viewing direction, e.g. discoloration, change in gloss and color No change in the surface structure, e.g. swelling, fiber raising, cracking, blistering.
2	Significant change Test area indistinguishable from adjacent surrounding area, visible in all viewing directions, e.g. discoloration, change in gloss and color And/or structure of the surface slightly changed, e.g. swelling, fiber raising, cracking, blistering.
1	Strong change The structure of the surface being distinctly changed And/or discoloration, change in gloss and color. And/or the surface material being totally or partially removed. And/or the polyamide fiber cloth adhering to the surface.





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CONSUMER PRODUCTS SERVICES DIVISION

SMART TOP SURFACE SOLUTION SDN. BHD.

Technical Report: (1216)298-0005
Date Received: October 24, 2016

Initial Report Date: October 31, 2016
Page 1 of 4

MR. SEE
SMART TOP SURFACE SOLUTION SDN. BHD.
LOT PTD 10630 & 10631, JALAN KEMPAS 3,
KAWASAN PERINDUSTRIAN BAKRI, JALAN BAKRI BATU 8,
84200 BUKIT BAKRI, MUAR, JOHOR,
MALAYSIA

Sample Description:	COLOR PANEL SUBMITTED		
Manufacturer:	/	PO No.:	/
Buyer:	/	Style:	/
Country of Origin:	/	Country of Destination:	USA
Color:	/	SKU No.:	/
Test Requested:	RESISTANCE TO WET HEAT (BS EN 12721) RESISTANCE TO DRY HEAT (BS EN 12722)	UPC Code:	/
Previous Report No.:	/	Lot No.:	/

EXECUTIVE SUMMARY:

The sample(s) was tested to the following requirement(s) and the data provided is for informational purposes only:

- The requirement of the BS EN 12721: Resistance to wet heat
- The requirement of the BS EN 12722: Resistance to dry heat

BUREAU VERITAS CPS SDN BHD

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email: chiehvoon.koo@sg.bureauveritas.com

PREPARED BY:

MOHD SALEHAN
TESTING ENGINEER

APPROVED BY:


KOO CHIEH VOON
HARDLINE ASSISTANT MANAGER

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Website: www.bureauveritas.com/cps

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TEST RESULT:

FINISH PERFORMANCE BS EN 12721: 2009 + A1: 2013

TEST	RATING REQUIREMENT	RESULT/ RATING	COMMENTS	CONCLUSION
BS EN 12721 : Resistance to Wet Heat				
180°C	-	4	Minor change	DATA

Descriptive numerical rating code:

Rating	Description
5	No change Test area indistinguishable from adjacent surrounding area.
4	Minor change Test area indistinguishable from adjacent surrounding area, only when the light source is mirrored on the test surface and is reflected towards the observer's eye, e.g. discoloration, change in gloss and color No change in the surface structural, e.g. deformation, swelling, fiber raising, cracking, blistering.
3	Moderate change Test area indistinguishable from adjacent surrounding area, visible in several viewing direction, e.g. discoloration, change in gloss and color No change in the surface structure, e.g. swelling, fiber raising, cracking, blistering.
2	Significant change Test area indistinguishable from adjacent surrounding area, visible in all viewing directions, e.g. discoloration, change in gloss and color And/or structure of the surface slightly changed, e.g. swelling, fiber raising, cracking, blistering.
1	Strong change The structure of the surface being distinctly changed And/or discoloration, change in gloss and color. And/or the surface material being totally or partially removed. And/or the polyamide fiber cloth adhering to the surface.



TEST RESULT: (Continued)

FINISH PERFORMANCE BS EN 12722: 2009 + A1: 2013

TEST	RATING REQUIREMENT	RESULT/ RATING	COMMENTS	CONCLUSION
BS EN 12722 : Resistance to Dry Heat				
180°C	-	4	Minor change	DATA

Descriptive numerical rating code:

Rating	Description
5	No change Test area indistinguishable from adjacent surrounding area.
4	Minor change Test area indistinguishable from adjacent surrounding area, only when the light source is mirrored on the test surface and is reflected towards the observer's eye, e.g. discoloration, change in gloss and color No change in the surface structural, e.g. deformation, swelling, fiber raising, cracking, blistering.
3	Moderate change Test area indistinguishable from adjacent surrounding area, visible in several viewing direction, e.g. discoloration, change in gloss and color No change in the surface structure, e.g. swelling, fiber raising, cracking, blistering.
2	Significant change Test area indistinguishable from adjacent surrounding area, visible in all viewing directions, e.g. discoloration, change in gloss and color And/or structure of the surface slightly changed, e.g. swelling, fiber raising, cracking, blistering.
1	Strong change The structure of the surface being distinctly changed And/or discoloration, change in gloss and color. And/or the surface material being totally or partially removed. And/or the polyamide fiber cloth adhering to the surface.





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CONSUMER PRODUCTS SERVICES DIVISION

SMART TOP SURFACE SOLUTION SDN. BHD.

Technical Report: (1216)298-0006
Date Received: October 24, 2016

Initial Report Date: October 26, 2016
Page 1 of 3

MR SEE
SMART TOP SURFACE SOLUTION SDN. BHD.
LOT PTD 10630 & 10631, JALAN KEMPAS 3,
KAWASAN PERINDUSTRIAN BAKRI, JALAN BAKRI BATU 8,
84200 BUKIT BAKRI, MUAR, JOHOR,
MALAYSIA

Product End Use:	/		
Sample Description:	COLOR PANEL		
Manufacturer:	/	PO No.:	/
Buyer:	/	Style:	/
Country of Origin:	/	Country of Destination:	USA
Color:	/	SKU No.:	/
Test Protocol:	SURFACE SCRATCHING (CPSD-HL-01055-MTHD)	UPC Code:	/
Previous Report No.:	/	Item Code:	/

EXECUTIVE SUMMARY:

The sample(s) **MEETS** the following requirement(s):

- CPSD-HL-01055-MTHD – Surface Scratching

BUREAU VERITAS CPS SDN BHD

Technical Inquiries: Koo Chieh Voon Tel: 607-5587266 ext 108
email: chiehvoon.koo@sg.bureauveritas.com

PREPARED BY:

FAISAL
TESTING TECHNICIAN

APPROVED BY:


KOO CHIEH VOON
HARDLINE ASSISTANT MANAGER



TEST RESULT(S):

Evaluation	Citation / Method	Criteria	Results	Rating
Surface Scratching	CPSD-HL-01055-MTHD	No scratching of test surfaces (wood) 3 cycles of 6" back and forth	M	PASS

Results Key:

M	Meets	NM	Does Not Meet
NA	Not Applicable	NT	Not Tested
C	Claimed	R	Recorded



Test Report No. 7191168696-MEC17-LZS (221412531)
dated 17 AUG 2017



PSB Singapore

**Choose certainty.
Add value.**

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

SUBJECT:

Testing of Smart Top-S







TESTED FOR:

Smart Top Surface Solutions Sdn Bhd
Lot PTD 10630 & 10631
Jalan Kempas 3
Kawasan Perindustrian Bakri
Jalan Bakri Batu 8
84200 Bukit Bakri, Muar
Johor, Malaysia

Attn: Mr See Beng Yeaw

SAMPLES DESCRIPTION:

The following Smart Top-S (as shown below) were submitted by Smart Top Surface Solutions Sdn Bhd on 8 August 2017 for testing.

Approximate Dimension	Photograph	Qty
50mm x 50mm x 16 mm	 Top View  Bottom View  End View	20 pcs
100 mm x 25 mm x 16 mm	 Top View  Bottom View  End View	15 pcs



Laboratory:
TÜV SÜD PSB Pte. Ltd.
No. 1 Science Park Drive
Singapore 118221

Phone : +65-6885 1333
Fax : +65-6776 8670
E-mail: enquiries@tuv-sud-psb.sg
www.tuv-sud-psb.sg
Co. Reg : 199002667R

Regional Head Office:
TÜV SÜD Asia Pacific Pte. Ltd.
1 Science Park Drive, #02-01
Singapore 118221
TUV®



TEST METHODS (AS AGREED AND PER CLIENT'S SPECIFICATION):

1. Swelling in Thickness Test
BS EN 317 :1993

Standard Test Methods for Particleboards and Fibreboards – Determination of Swelling in Thickness After Immersion in Water.

Nominal Specimen Dimensions : 50 mm x 50 mm x 16 mm
No. of Determinations : 5 pcs

2. Boil Test

Nominal Specimen Dimensions : As received
Boiling condition : 100 °C for 3 h
No. of Determinations : 6 pcs

TEST RESULTS:

Characteristics	Results
1. Swelling in thickness % of Original Thickness, average	0.5
2. Boil Test	
a. Swelling in thickness % of Original Thickness, average	8.9
b. Water Absorption % change in weight, average	53.5

NOTE:

Typical tested specimen after boiling test was shown in Figure 1.

Lim Zi Sheng
Associate Engineer

Kong Siew Yong
Product Manager
Polymer Products
Mechanical Centre

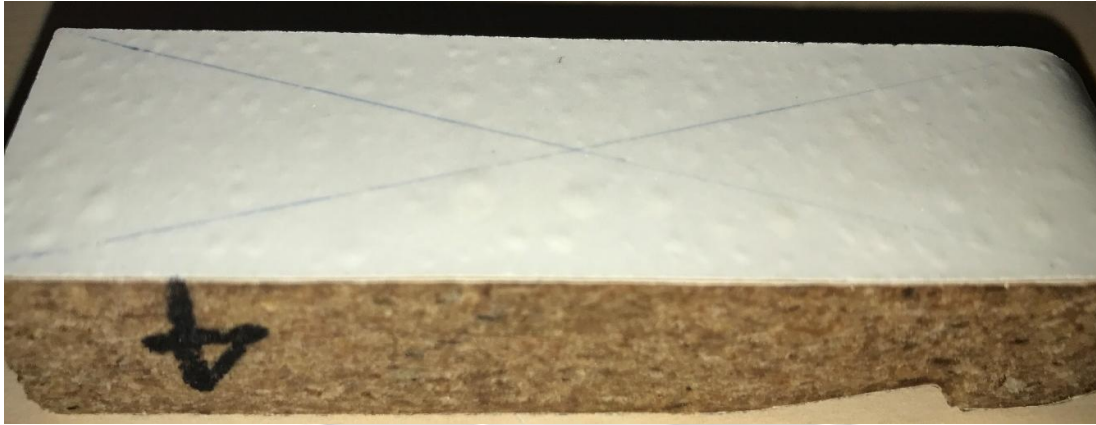


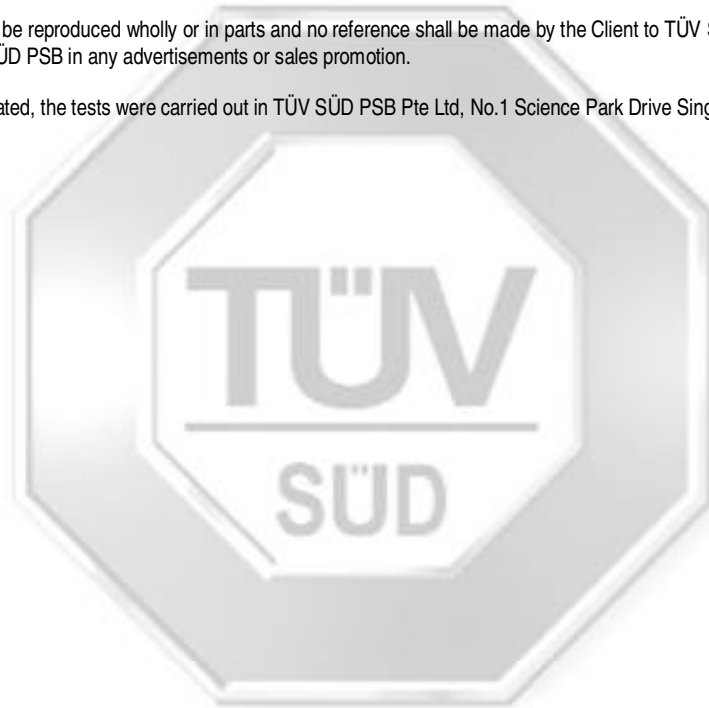
Figure 1



Please note that this Report is issued under the following terms :

1. This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
2. The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD PSB therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
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5. Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221.

July 2011





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VERITAS**

CONSUMER PRODUCTS SERVICES DIVISION

SMART TOP SURFACE SOLUTION SDN BHD

Technical Report: (1216)298-0004

Initial Report Date:

November 10, 2016

Date Received: October 24, 2016

Page 1 of 3

MR SEE
SMART TOP SURFACE SOLUTION SDN BHD
LOT PTD 10630 & 10631, JALAN KEMPAS 3,
KAWASAN PERINDUSTRIAN BAKRI, JALAN BAKRI BATU 8,
84200 BUKIT BAKRI, MUAR, JOHOR,
MALAYSIA

Sample Description:	COLOR PANEL		
Manufacturer:	/	PO No.:	/
Buyer:	/	Model/Style:	/
Country of Origin:	/	Country of Destination:	USA
Color:	/	SKU No.:	/
Test Requested:	ISO 4892-3: 2006, METHODS OF EXPOSURE TO LABORATORY LIGHT SOURCES-FLUORESCENT UV LAMPS	UPC Code:	/
Previous Report No.:	/	Item No.:	/

EXECUTIVE SUMMARY:

The sample(s) was tested to the following requirement(s) and the data provided is for informational purposes only:

- The requirements of ISO 4892-3: 2006, Methods of exposure to laboratory light sources-Fluorescent UV lamps.

BUREAU VERITAS CPS SDN BHD


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APPROVED BY:


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RESULT(S):

Evaluation	Citation / Method	Criteria	Results	Rating
Methods of exposure to laboratory light sources- Fluorescent UV lamps	ISO 4892-3: 2006	After 200 hours of exposure as below, the specimens shall have no wrinkles or gaps, no physical or structural deterioration. Record as DATA <ul style="list-style-type: none"> • 8 hours dry of UVA 340 lamp, 60 °C • 4 hours condensation, 50 °C 	No major defects Grade 5	DATA

Results Key:

M	Meets	NM	Does Not Meet
NA	Not Applicable	NT	Not Tested
C	Claimed	R	Recorded

