

SOUTHWEST RESEARCH INSTITUTE®

6220 CULEBRA ROAD 78238-5166 • P.O. DRAWER 28510 78228-0510 • SAN ANTONIO, TEXAS, USA • (210) 684-5111 • WWW.SWRI.ORG

CHEMISTRY AND CHEMICAL ENGINEERING DIVISION
FIRE TECHNOLOGY DEPARTMENT
WWW.FIRE.SWRI.ORG
FAX (210) 522-3377



Registered to
ISO 9001:2008

UL 94 VTM (2013), STANDARD FOR THIN MATERIAL VERTICAL BURNING TEST

MATERIAL ID.: *TOB3M/White Translucent*
TRADE NAME: *Newmat USA*

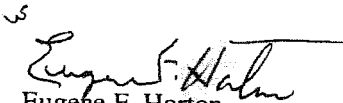
FINAL REPORT
Consisting of 3 Pages

SwRI® Project No.: 01.17791.04.038d
Test Date: October 15, 2013
Report Date: November 15, 2013


Prepared for:

Newmat USA Ltd.
81 Mahan Street
West Babylon, NY 11704

Submitted by:


Eugene F. Horton
Principal Engineering Technologist
Material Flammability Section

Approved by:


Matthew S. Blais, Ph. D.
Director
Fire Technology Department

This report is for the information of the client. It may be used in its entirety for the purpose of securing product acceptance from duly constituted approval authorities. This report shall not be reproduced except in full, without the written approval of SwRI. Neither this report nor the name of the Institute shall be used in publicity or advertising.



Benefiting government, industry and the public through innovative science and technology

INTRODUCTION

This report presents the results of a specimen submitted by Newmat USA Ltd., located in West Babylon, NY, and, tested at Southwest Research Institute's (SwRI's) Fire Technology Department, located in San Antonio, Texas. The test was conducted in accordance with the procedures outlined in UL 94 VTM (2013), *Standard for Thin Material Vertical Burning Test*.

This test is intended to be performed on materials that due to their thinness, distort, shrink, and/or are consumed up to the holding clamp when tested using the test described in the 20-mm Vertical Burning Test; V-0, V-1, or V-2, Section 8. This test shall only be performed after it has been determined that the samples cannot meet the requirements of the 20-mm Vertical Burning Test. A test specimen with a thickness less than 0.025 mm shall not be subjected to the 20-mm Vertical Burning Test.

Ten specimens are to be conditioned in accordance with ASTM D 618 (ISO 291) at $23 \pm 2^\circ\text{C}$ and 50 ± 5 percent relative humidity for a minimum of 48 h. Another set of ten specimens are to be conditioned in an air-circulating oven for 168 ± 2 h at $70 \pm 2^\circ\text{C}$ and then cooled in the desiccator for at least 4 h at room temperature, prior to testing.

CLASSIFICATION CRITERIA

Criteria conditions	VTM-0	VTM-1	VTM-2
Afterflame time for each individual specimen t_1 or t_2	$\leq 10\text{s}$	$\leq 30\text{s}$	$\leq 30\text{s}$
Total afterflame time for any condition set (t_1 plus t_2 for the 5 specimens)	$\leq 50\text{s}$	$\leq 250\text{s}$	$\leq 250\text{s}$
Afterflame plus afterglow time for each individual specimen after the second flame application ($t_2 + t_3$)	$\leq 30\text{s}$	$\leq 60\text{s}$	$\leq 60\text{s}$
Did the afterflame or afterglow of any specimen progress up to the 125 mm mark?	No	No	No
Was the cotton indicator ignited by flaming particles or drops?	No	No	Yes

If only one specimen from a set of 5 specimens fails to comply with the requirements of 11.1.3 or the total number of seconds of flaming is in the range of 51 – 55 s for VTM-0 or 251 – 255 s for VTM-1 or VTM-2, an additional set of 5 specimens shall be tested. All specimens from this second set shall comply with the appropriate requirements in order for the material in that thickness to be classified VTM-0, VTM-1, or VTM-2.

The results apply specifically to the specimens tested, in the manner tested, and not to the entire production of these or similar materials, nor to the performance when used in combination with other materials.

UL 94 VTM (2013) TEST REPORT

MATERIAL DESCRIPTION

Date Received: September 24, 2013
Material ID: TOB3M/White Translucent
Trade Name: Newmat USA
Description: Thin, clear PVC membrane
Color: White
Thickness: 0.18 mm (*0.16 mm) nominal
Received Weight:* 1.66 g (nominal)

* Measured by SwRI personnel

PREPARATION AND CONDITIONING

Preparation: Twenty specimens were prepared according to standard UL 94 VTM requirements.

Conditioning Time: The specimens were conditioned at least 48 h at 23 ± 3 °C at $50 \pm 5\%$ relative humidity and then conditioned in an air-circulating oven for 168 ± 2 h at 70 ± 2 °C and then cooled in the desiccator for at least 4 h at room temperature, prior to testing.

TEST RESULTS

Number of Runs: 3

Run No	After Flame (s)	After Glow (s)	Cotton Ignition	Elapsed Time between 25 mm and 100 mm Marks (sec) (t)	Burn Distance (mm)	Burning Rate (mm/min) $60 \times (L/t)$
1	None	No	No	NA	0	0
2	None	No	No	NA	0	0
3	None	No	No	NA	0	0

CONCLUSIONS

Based on the test results, the specimen identified as *TOB3M/White Translucent* meets the specified criteria for UL 94 Thin Material Vertical Burning Test and can be classified as VTM-0.