Underwriters Laboratories Inc.

September 30, 2002

Attn: PLANT MANAGER
WUXI XINGDA NEW FOAM PLASTICS
MATERIALS CO LTD
88 XINMINGZHONG RD
DONGTING
XISHAN
JIANGSU 214101 CHINA

Our Reference: File No. E212192
Tag No. F073009

Subject: Conforming Follow-Up Test Results for PLASTICS
CCN: QMFZ2
Tests Conducted: 94 Horizontal Burn-Foam
Infrared Analysis

Dear Plant Manager:

The Follow-Up Service Testing has been completed on type: ZKF, selected by our UL Representative at your factory on 7/18/02. The results of the testing conforms with the provisions of the Follow-Up Service Program.

Your continued cooperation in maintaining conformance with the applicable test requirements is appreciated.

If we can be of any further assistance, please do not hesitate to contact us.

Sincerely,

Kelly Hahn

Kelly Hahn
Engineering Aide
Follow-Up Services
Kelly.M.Hahn@us.ul.com

Reviewed By:

Paul J Knudsen

Paul J. Knudsen
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UL94 HBF HF-1 HF-2水平燃烧测试
对应法规：UL 94
CNAS 认可项目：是
适用产品：泡沫材料；
样品尺寸：15 pieces (150± 5) X (50± 1) mm X thickness (最小厚度和最大厚度都要提供，当最大厚度和最小厚度的测试结果不一致，则中间的厚度也要提供，间隔不要超过 6mm，试样宽度不要超过50mm
测试方法：UL94:1997、ASTM D4986-03(泡沫塑料)、IEC 60695-11-10(2003)、ISO 3852-88(软质泡沫材料)；；

测试相关介绍：在试件的25MM，60MM，120MM 处做参考标记，翼顶喷嘴的火焰施加于水平放置在丝网上的泡沫塑料一侧，施加火源时间为60S，测定试件的燃烧速率；

评定方法：
UL 94 HBF：在25MM 及125MM 两个标记间材料燃烧速率不超过40MM/MIN，或在125MM 标记前自熄，但不符合 UL 94 HF-1及 UL 94 HF-2的要求；

UL 94 HF-1：一组5个试样中至少有4个明燃时间小于等于2S，任何一个试件的明燃时间不超过10S。经过60MM 标记后，试样未能破坏。点燃源移开后，或经过60MM 标记后，试件燃烧时间不超过30S，无熔滴；

UL 94 HF-2：一组5个试样中至少有4个明燃时间小于等于2S，任何一个试件的明燃时间不超过10S。经过60MM 标记后，试样未能破坏。点燃源移开后，或经过60MM 标记后，试件燃烧时间不超过30S，熔滴点燃脱脂棉

TABLE I: MATERIAL PROPERTIES

Material Designation	Color	Min. Thick (mm)	UL 94 Flame Class	Elec	RTI Mech w/ Imp	RTI Mech w/o Imp
ZKF	WHITE	3.70	HF-1	50	50	50

TABLE II: CNR MATERIAL PROPERTIES

Material Designation	Color	Min. Thick (mm)	UL 94 Flame Class	Elec	RTI Mech w/ Imp	RTI Mech w/o Imp
ZKF	WHITE	3.70	HF-1	50	50	50

UL 94 燃烧性测试

我们常常看到塑料的阻燃认证通过 UL—94 V0 级等，究竟是什么含义？

UL 认证即美国保险商实验所进行的各种认证的总称。UL关于塑料燃烧性的认证方法有两种：一种是我们通常看到最多的UL—94 V0、V1、V2、V5，这是垂直燃烧的测试方法；另一种是我们一般很少见到的 UL94 HB，这是水平测试的方法。

UL94 HB：水平燃烧

这种塑料能慢慢燃烧但不能自熄。这种类型是UL的最低等级，经常是用纵向V0、V1或V2方式行不通时才采用这种方法。

UL94 V0、V1、V2、V5：垂直燃烧

UL 阻燃性分类体系如下：

UL94 V0评定方法：从点燃后把火焰移开后样品能快速自熄到在一定时间间隙内无燃烧的熔体滴落（也就是说，燃烧着的熔体滴落在位于测试样品下面的一英尺的棉花垫上，不能引燃棉花）。

UL94 V1 评定方法与V0类似，只不过它要求的自熄时间要长些。这种测试允许熔体滴落在棉花垫上，但不能点燃棉花。

UL94 V2和V1相同，只是它允许燃烧着的熔滴将一英尺下面的棉花点燃。

UL94 V5是最严格的检测方法，它涉及到塑料制品实际在火焰里的寿命。实验要求火焰长度为5in，对测试样品施加五次燃烧，其间不允许有熔滴滴落，不允许测试样品有明显的扭曲，也不能产生任何被烧出来的洞。 ■

测试条件	标准			
	V0	V1	V2	VB
第一次点燃后燃烧的时间	<10s	<30s	<30s	样品燃烧到标线
第二次点燃后燃烧的时间	<10s	<30s	<30s	
5个样品十次点燃总的燃烧时间	<50s	<250s	<250s	
第二次点燃后炽热的燃烧时间	<30s	<60s	<60s	
点燃棉花	否	否	是	

美国实验所UL94燃烧检测法的要求

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February 14, 2008

REPORT

on

Foamed Plastic

Under the

CLASSIFICATION PROGRAM

Wuxi Xinda New Foamed Plastics Material Co., Ltd.
Xishan, Jiangsu

DESCRIPTION

PRODUCT COVERED:

The product covered by this Report is a Foamed Plastic.

The product is Classified as to Surface Burning Characteristics only.

USE

The product is intended for use as a building material as permitted by authorities having jurisdiction.

TEST RECORD NO. 1

GENERAL:

Test results relate only to the items tested.

EXAMINATION OF MATERIALS

The materials used in this investigation were produced under the observation of a representative of Underwriters Laboratories Inc., in a ready-to-use form. The composition of the finished material is of proprietary nature. Data on the composition is on file at the Laboratories for use in the Follow-Up Service Program.

Various physical and chemical tests were conducted on the components and finished products. The results developed from these tests were employed in establishing specifications for use in the factory Follow-Up Service Program.

SURFACE BURNING CHARACTERISTICS:

SAMPLES

The samples were nominal 0.70 and 2.00 ft^3 at 4 and 5 in. thicknesses designated Wuxi Xingda XIFA EPS ZKF-303 .

Each test sample consisted of three 8 by 2 ft wide boards butted end-to-end to form the required 24 ft long surface.

Each test sample was supported by 2 in. hexagonal poultry netting supported by 1/4 in. diameter steel rods spaced 2 ft apart.

For each test a piece of 1 ft long by 22 in. wide by 1/16 in. thick uncoated steel plate was placed at the fire end of the tunnel furnace "upstream" from the gas burners to complete the 25 ft chamber length.

The test samples were allowed to condition at a temperature of 73 ±4°F and a relative humidity of 50±5 percent prior to testing.

METHOD

The tests were conducted in accordance with Standard ANSI/UL 723, Ninth Edition, dated August 29, 2003, "Test for Surface Burning Characteristics of Building Materials," (ASTM E84-07).