

NEW HAMPSHIRE STATE BUILDING CODE
PROPOSED AMENDMENT FORM

Proposed amendment submitted by:

Name: Howard Guard

Date: 12/29/2015

Company /Organization: VizCO US, Inc.

Address: 4708 Manatee Avenue West #103

Telephone: 941-753-3333

E-mail: howard@vizco.com

RE-09-07-16

Applicable code: P2801

Applicable code section: P2801.5 Required Pan

Select only one code: IEBC-09 IBC-09 XJRC-09 IPC-09 IMC-09 IECC-09 IEBC-09 NEC-11 (NFPA 70)

Current language (including section numbers and include prior adopted amendments):

Where water heaters or hot water storage tanks are installed in locations where leakage of the tanks or connections will cause damage, the tank or water heater shall be installed in a galvanized steel pan having a material thickness of not less than 0.0236" (0.6010mm) (No. 24 gage), or other pans approved for such use. Listed pans shall comply with CSA LC3.

Check one: Delete without substitution: Add new section to read as follows:

Delete section and substitute the following: Revise section to read as follows:

~~Show Line through material to be deleted.~~ Underline material to be added.

Proposed code language:

Where water heaters or hot water storage tanks are installed in locations where leakage of the tanks or connections will cause damage, the tank or water heater shall be installed in a galvanized steel pan having a material thickness of not less than 0.0236" (0.6010mm) (No. 24 gage), or other pans approved for such use. ~~Listed pans shall comply with CSA LC3.~~ Other approved pans shall include a plastic pan beneath a gas or electric water heater tank shall be constructed of a material having a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with the ASTM E84 or UL 723 standards.

Reason / Justification:

*The CSA LC3 standard is a non-supported standard by CSA and has been obsolete for awhile. They can no longer even test against that standard.

*Gas or electric water heater tanks are now rated at zero clearance by manufacturers. This means no required clearance between the bottom of the tank and a flammable surface, so heat and fire are not an issue.

*The ICC board and membership have adopted the requested revision for the 2018 version.

Financial Analysis/Fiscal Impact of proposed amendment:

Plastic pans are a safe, less expensive, and more durable alternative to metal and meets the same intended use. The costs are real savings in actual hard finished goods costs and the soft cost of time spent in handling dented, crushed, and cracked metal pans. Time spent by distributors and contractors, costing homeowners more money. Costs of this category will go down as savings are passed along down the supply chain, without any sacrifice of public safety.

For Building Code Review Board Use:

Not approved: _____ Approved: _____ Approved with modifications: _____

Scheduled Hearing Date: _____ Exhibit #: _____

Chair's Signature: _____ Date: _____

Printed Name: _____



INTERNATIONAL PLUMBING CODE P2801.6 Required Pan

New Code Approval for Plastic Water Heater Pans

TOUGH PANS™ are approved to replace metal pans for gas or electric water heaters.

ICC CODE SUMMARY:

Plastic pans may be used under Gas Water Heaters IF material meets ASTM E-84 or UL-723 standards and material must be .036 inch in thickness.

TOUGH PANS™ made with **securcFLX** material meets or exceeds the ASTM E-84 and UL-723 requirements.

2018 ICC CODE AS WRITTEN

P2801.6 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other approved materials.

A plastic pan beneath a gas-fired water heater shall be constructed of material having a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E 84 or UL 723.



material by **SECUREFLX**



Intertek

REPORT NUMBER: 101547766SAT-001R
ORIGINAL ISSUE DATE: July 22, 2014
REVISED DATE:

EVALUATION CENTER
Intertek Testing Services NA Inc.
16015 Shady Falls Road
Elmendorf, TX 78112

RENDERED TO

Vizco US
3500 9th Street West
Bradenton, FL 34205

TEST REPORT

Report of Testing "Secureflx" for compliance with the applicable requirements of the following criteria: ~~ASTM E84-13a~~ **TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS (UL 723, UBC 8-1, NFPA 255)**

ABSTRACT

Specimen I. D. "Securefix"

Test Standard: ASTM E84-13a TEST FOR SURFACE BURNING
CHARACTERISTICS OF BUILDING MATERIALS (UL
723, UBC 8-1, NFPA 255)

Test Date: July 21, 2014

Client: Vizco US

Test Results:

FLAME SPREAD INDEX	5
SMOKE DEVELOPED INDEX	450

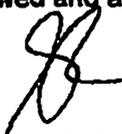
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Darrell Gonzales

Darrell Gonzales
Technician II

July 22, 2014

Reviewed and approved:



Servando Romo
Project Engineer

July 28, 2014

I. INTRODUCTION

This report describes the results of the ASTM E84-13a TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS a method for determining the comparative surface burning behavior of building materials. This test is applicable to exposed surfaces, such as ceilings or walls, provided that the material or assembly of materials, by its own structural quality or the manner in which it is tested and intended for use, is capable of supporting itself in position or being supported during the test period.

The purpose of the method is to determine the relative burning behavior of the material by observing the flame spread along the specimen. Flame spread and smoke density developed are reported, however, there is not necessarily a relationship between these two measurements.

"The use of supporting materials on the underside of the test specimen may lower the flame spread index from that which might be obtained if the specimen could be tested without such support... This method may not be appropriate for obtaining comparative surface burning behavior of some cellular plastic materials... Testing of materials that melt, drip, or delaminate to such a degree that the continuity of the flame front is destroyed, results in low flame spread indices that do not relate directly to indices obtained by testing materials that remain in place."

This test method is also published under the following designations:

NFPA 255

UL 723

UBC 8-1

This standard should be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use.

II. PURPOSE

The ASTM E84 (25 foot tunnel) test method is intended to compare the surface flame spread and smoke developed measurements to those obtained from tests of fiber cement board and select grade red oak flooring. The test specimen surface (18 inches wide and 24 feet long) is exposed to a flaming fire exposure during the 10 minute test duration, while flame spread over its surface and density of the resulting smoke are measured and recorded. Test results are presented as the computed comparisons to the standard calibration materials.

The furnace is considered under calibration when a 10 minute test of red oak decking will pass flame out the end of the tunnel in five minutes, 30 seconds, plus or minus 15 seconds. The fiber cement board which complies with Annex A3 of the ASTM E 84 standard forms the zero point for both flame spread and smoke developed indexes, while the red oak flooring smoke developed index is set as 100.

III. TEST PROCEDURE

The tests were conducted in accordance with the procedures outlined in the ASTM E84. The specimens are placed directly on the tunnel ledges. As required by the standard, one or more layers of 0.25 inch thick reinforced concrete board are placed on top of the test sample between the sample and the tunnel lid. After the test, the samples are removed from the tunnel, examined and disposed of.

IV. REVISION SUMMARY

DATE	SUMMARY
July 22, 2014	Original

V. DESCRIPTION OF TEST SPECIMENS

Date Received:	7/2/14
Date placed in the conditioning room:	7/2/14
Conditioning (73°F & 50% R.H.):	19 days
Specimen Width (in):	22
Specimen Length (ft):	25
Specimen Thickness (in):	0.04
Material Weight (lbs):	12

Specimen Description:

The specimen was described by the client as "Flat sample".

The 25-ft. long test specimen consisted of five 5-ft. long plastic sheets.

The product was received by our personnel in good condition and given an identification number of SAT1407021322-001.

Mounting Method:

The specimen was supported by 0.25 inch diameter metal rods that were spaced approximately every two feet and 20 - gage, 2-inch hexagonal galvanized steel netting. The specimen was the same on both sides.

VI. TEST RESULTS & OBSERVATIONS

The test results, computed on the basis of observed flame front advance and electronic smoke density measurements are presented in the following table.

Test Specimen	Flame Spread Index	Smoke Developed Index
"Securefix"	5	450

The data sheets are included in Appendix A. These sheets are actual print-outs of the computerized data system which monitors the tunnel furnace, and contain all calibration and specimen data needed to calculate the test results.

VII. OBSERVATIONS

During the test, the specimen was observed to behave in the following manner.

Time (min:sec)	Observations
0:00	The test burners were turned on.
0:12	Melting was observed.
0:13	Sagging was observed.
0:18	Steady ignition was observed.
0:19	Flaming drops were observed.
0:20	Floor flames were observed.
10:00	The test burners were shut off.

After the burners were turned off, a 60+ second after flame was observed.

After the test, the specimen was observed to be damaged as follows:

Distance (FEET)	Damage Descriptions
0 - 4	The sample was consumed.
4 - 13	The sample was melted to the floor.
13 - 20	The sample was partially melted.
20 - 24	The sample was covered with soot.

Project No. 101547766SAT-001R
Vizco US

July 22, 2014
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APPENDIX A
ASTM E84
DATA SHEETS

TEST RESULTS

FLAMESPREAD INDEX: 5

SMOKE DEVELOPED INDEX: 450

SPECIMEN DATA . . .

Time to Ignition (sec): 18

Time to Max FS (sec): 351

Maximum FS (feet): 2.4

Time to 980 F (sec): Never Reached

Time to End of Tunnel (sec): Never Reached

Max Temperature (F): 541

Time to Max Temperature (sec): 600

Total Fuel Burned (cubic feet): 48.87

FS*Time Area (ft*min): 12.1

Smoke Area (%A*min): 304.0

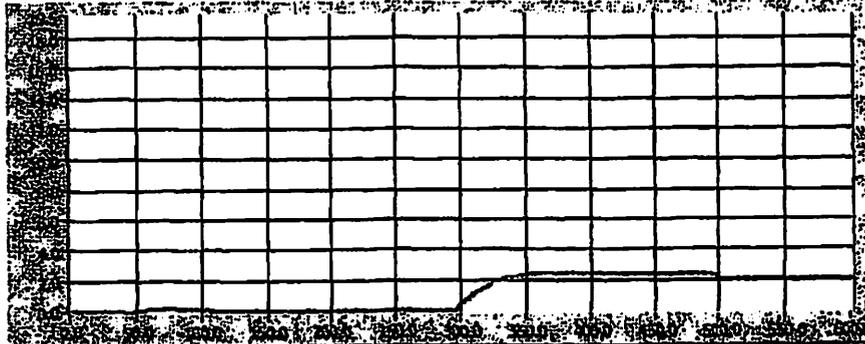
Unrounded FSI: 6.2

CALIBRATION DATA . . .

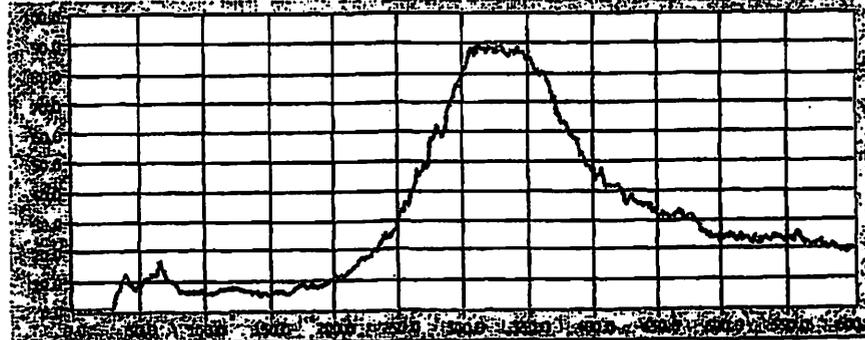
Time to Ignition of Last Red Oak (Sec): 45.0

Red Oak Smoke Area (%A*min): 69.8

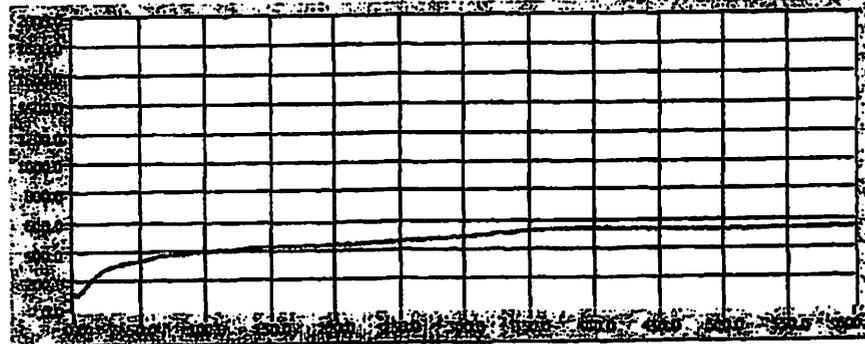
FLAME SPREAD (ft)



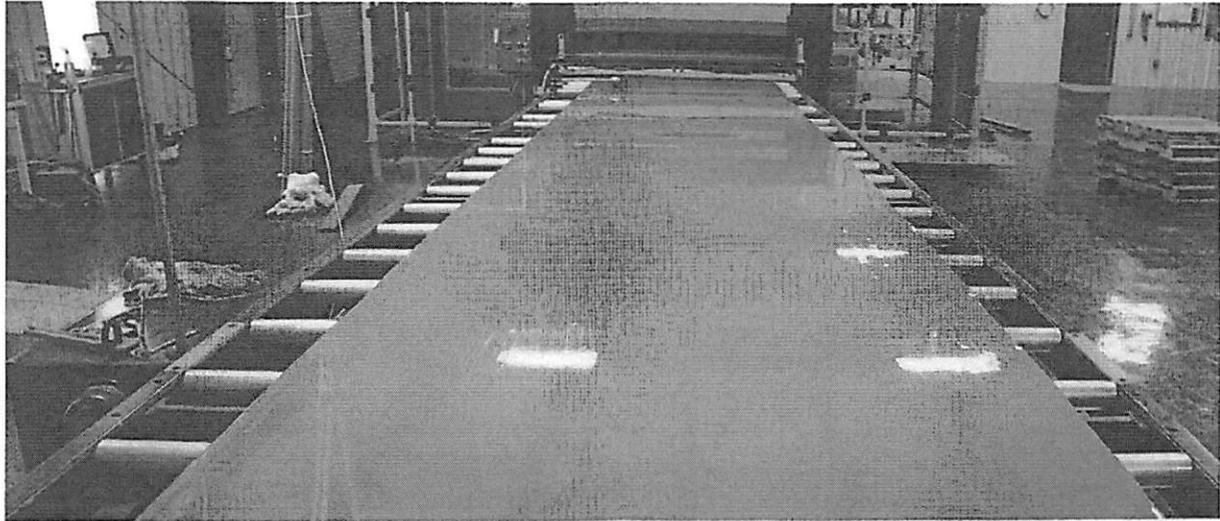
Smoke (%A)



Temperature (F)



Time (sec)



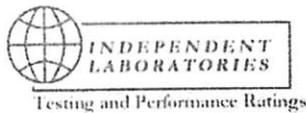
SECUREFLX™

SecureFLX™ is designed to be safer and physically outperform every other drain pan at a superior price point.

Our goal is to provide a product with the following characteristics: self extinguishing, low smoke, flexibility, extreme strength and to perform without failure at a higher temperature range than any other non-metallic solution.

The result is a cost effective material unlike anything on the market.

Independent laboratories have tested and rated secureFLX™ material to meet or exceed ASTM E-84 class A and UL-94 testing and performance standards.



Mechanical Properties

- TEMPERATURE RANGE: -20°F TO 260°F
- DISTORTION TEMPERATURE: 310°F
- LOAD SUPPORT (LBS): 1000+
- FLAME RETARDANT
- SELF-EXTINGUISHING
- LOW SMOKE



ASTM E 84 - CLASS A RATING:

	Flame Spread Index	Smoke Developed Index
Class A	0-25	0-450

Material Properties

PROPERTIES	ASTM METHOD	VALUE
Izod Impact	D-256	12.0 ft-lbs/in
Tensile Strength	D-638	8,900 psi
Flexural Strength	D-790	13,500 psi
Flexural Modulus	D-790	345,000 psi
Rockwell Hardness	D-785	112 R
HDTUL Unannealed (264 psi)	D-648	270°F

USED BY CODE OFFICIALS AND REGULATORY AGENCIES IN THE ACCEPTANCE OF INTERIOR FINISH MATERIALS FOR VARIOUS APPLICATIONS.

THE MOST WIDELY ACCEPTED CLASSIFICATION SYSTEM DESCRIBED IN THE NATIONAL FIRE PROTECTION ASSOCIATION PUBLICATION NFPA 101 LIFE SAFETY CODE. CHARACTERIZES THE RELATIVE RATE AT WHICH FLAME WILL SPREAD AS THE SUBJECT MATERIAL BURNS.

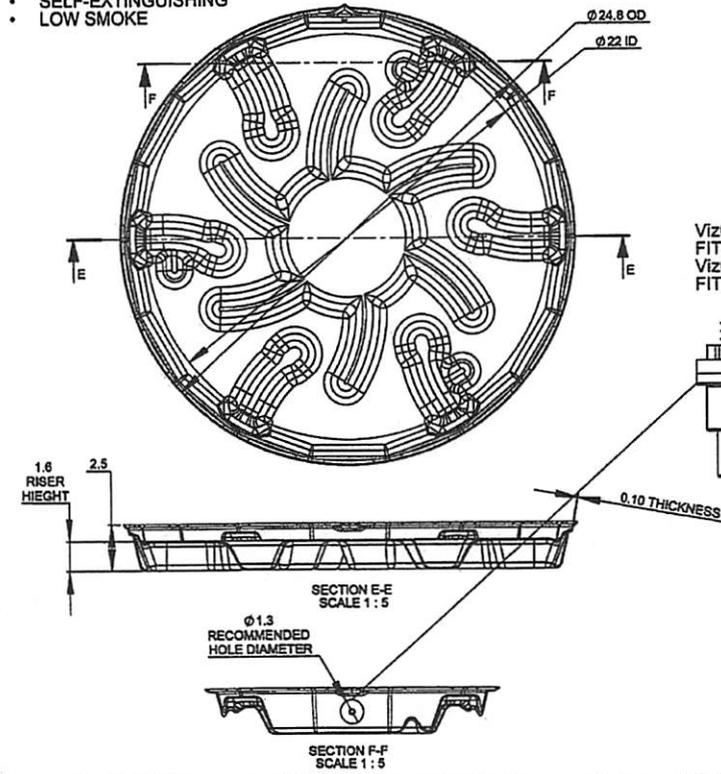
UL94 FLAMMABILITY RATING:

SPECIMENS MAY NOT BURN WITH FLAMING COMBUSTION FOR MORE THAN 30 SECONDS AFTER EITHER APPLICATION OF THE TEST FLAME.

THE STANDARD FOR SAFETY OF FLAMMABILITY OF PLASTIC MATERIALS

MECHANICAL PROPERTIES:

- WEIGHT: 2.4 LBS
- VOLUME CAPACITY: 3.7 GALLONS (WITHOUT TANK)
- TEMPERATURE RANGE: -20°F TO 260°F
- DISTORTION TEMPERATURE: 310°F
- LOAD SUPPORT (LBS): 1000+
- FLAME RETARDENT
- SELF-EXTINGUISHING
- LOW SMOKE



VizCo CPVC DRAIN PAN FITTING IS RECOMMENDED. VizCo PVC DRAIN PAN FITTING IS ALSO AVAILABLE.



MATERIAL PROPERTIES:

PROPERTIES	ASTM METHOD	VALUE
Izod Impact	D-256	12.0 ft-lbs/in
Tensile Strength	D-638	8,900 psi
Flexural Strength	D-790	13,500 psi
Flexural Modulus	D-790	345,000 psi
Rockwell Hardness	D-785	112 R
Specific Gravity	D-792	1.20
HDTUL Unannealed (264 psi)	D-648	270°F
Mold Shrinkage	D-955	0.005-0.007 in/in
Melt Flow Index	D-1238 (300°C/1.2kg)	5.0 g/10 min

ASTM E 84 - CLASS A RATING:

	Flame Spread Index	Smoke Developed Index
Class A	0-25	0-450

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- THE STANDARD FOR SAFETY OF FLAMMABILITY OF PLASTIC MATERIALS

DESCRIPTION:

UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ± .005
 DECIMAL ± .005
 TWO PLACE DECIMAL ± .010
 THREE PLACE DECIMAL ± .005
 DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED
 DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED
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REVISIONS:
 REFER TO SOLIDWORKS CAD FILES FOR DIMENSIONS NOT SHOWN AND THE LATEST REVISION.



TITLE: TOUGH PANS 23" DRY LIFT SERIES

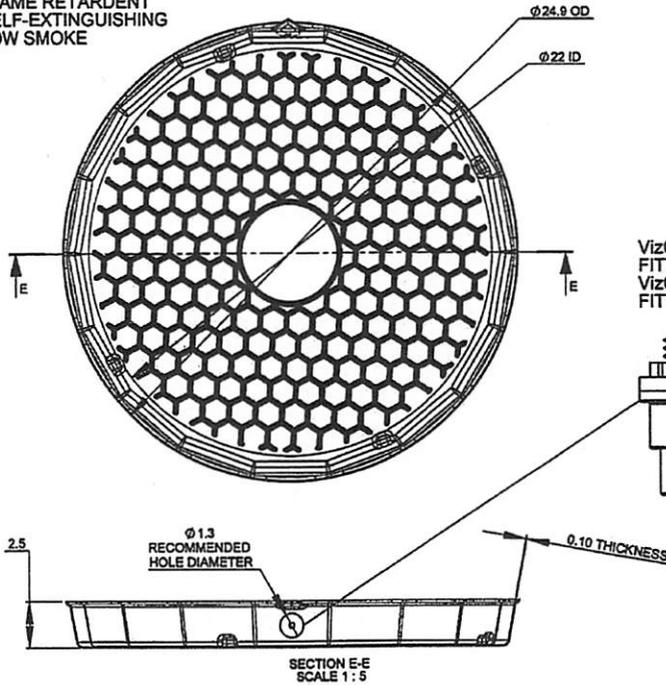
SIZE DWG. NO. REV A SHEET 1 OF 1

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DO NOT SCALE DRAWING

MECHANICAL PROPERTIES:

- WEIGHT: 2.3 LBS
- VOLUME CAPACITY: 4.6 GALLONS (WITHOUT TANK)
- TEMPERATURE RANGE: -20°F TO 260°F
- DISTORTION TEMPERATURE: 310°F
- LOAD SUPPORT (LBS): 1000+
- FLAME RETARDENT
- SELF-EXTINGUISHING
- LOW SMOKE



VizCo CPVC DRAIN PAN FITTING IS RECOMMENDED.
VizCo PVC DRAIN PAN FITTING IS ALSO AVAILABLE.

MATERIAL PROPERTIES:

PROPERTIES	ASTM METHOD	VALUE
Izod Impact	D-256	12.0 ft-lbs/in
Tensile Strength	D-638	8,900 psi
Flexural Strength	D-790	13,500 psi
Flexural Modulus	D-790	345,000 psi
Rockwell Hardness	D-785	112 R
Specific Gravity	D-792	1.20
HDTUL Unannealed (294 psi)	D-648	270°F
Mold Shrinkage	D-855	0.005-0.007 in/in
Melt Flow Index	D-1238 (300°C/1.2kg)	5.0 g/10 min

ASTM E 84 - CLASS A RATING:

	Flame Spread Index	Smoke Developed Index
Class A	0-25	0-450

- USED BY CODE OFFICIALS AND REGULATORY AGENCIES IN THE ACCEPTANCE OF INTERIOR FINISH MATERIALS FOR VARIOUS APPLICATIONS.
- THE MOST WIDELY ACCEPTED CLASSIFICATION SYSTEM DESCRIBED IN THE NATIONAL FIRE PROTECTION ASSOCIATION PUBLICATION NFPA 101 LIFE SAFETY CODE.
- CHARACTERIZES THE RELATIVE RATE AT WHICH FLAME WILL SPREAD AS THE SUBJECT MATERIAL BURNS.

UL94 FLAMMABILITY RATING:

- SPECIMENS MAY NOT BURN WITH FLAMING CUMBUSTION FOR MORE THAN 30 SECONDS AFTER EITHER APPLICATION OF THE TEST FLAME.
- THE STANDARD FOR SAFETY OF FLAMMABILITY OF PLASTIC MATERIALS

DESCRIPTION:

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES

FRACTIONAL > 1/8"

AND ALL DIMENSIONS TO BE SHOWN TO TWO PLACE DECIMALS, 1 & 2 DIGIT

THREE PLACE DECIMALS, 1 & 2 DIGIT

INTERPRET DIMENSIONS PER ASME Y14.5M

MATERIAL: SECUREFLX

FINISH: HIGH GLOSS

COLOR: GRAY

DO NOT SCALE DRAWING

NAME: J. J. JONES

DATE: 05/04/14

ENGINEER: H. GILBERT

DATE: 05/04/14

DESIGNER: E. CARROLL

DATE: 05/04/14

APP. APPR.: WY. DEBAND

DATE: 05/04/14

DATE: 05/04/14

VizCO
THE VISIONARY COMPANY

BRADENTON, FL 34205 1-941-755-1333 WWW.VIZCO.COM

TITLE: TOUGH PANS 23" PRO SERIES

SIZE DWG. NO. B

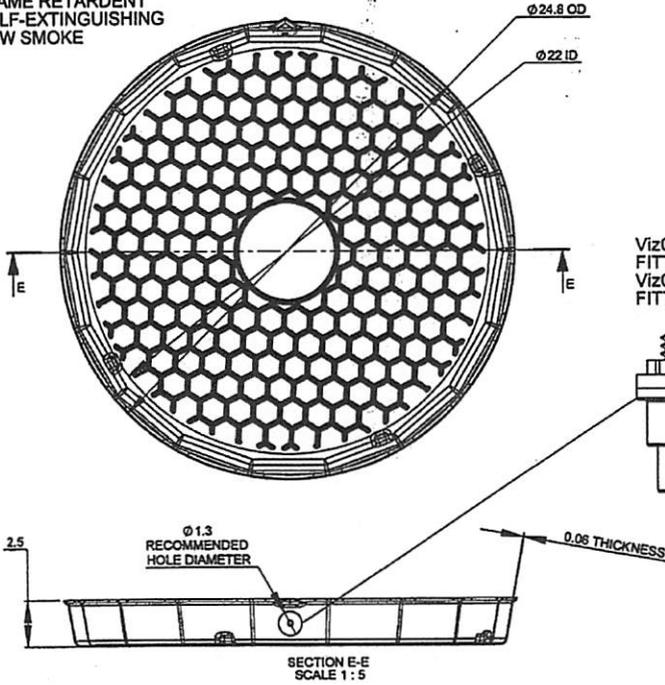
REV A

SHEET 1 OF 1

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MECHANICAL PROPERTIES:

- WEIGHT: 1.0 LBS
- VOLUME CAPACITY: 4.6 GALLONS (WITHOUT TANK)
- TEMPERATURE RANGE: -20°F TO 260°F
- DISTORTION TEMPERATURE: 310°F
- LOAD SUPPORT (LBS): 1000+
- FLAME RETARDANT
- SELF-EXTINGUISHING
- LOW SMOKE



VizCo CPVC DRAIN PAN FITTING IS RECOMMENDED.
VizCo PVC DRAIN PAN FITTING IS ALSO AVAILABLE.

MATERIAL PROPERTIES:

PROPERTIES	ASTM METHOD	VALUE
Izod Impact	D-256	12.0 ft-lbs/in
Tensile Strength	D-638	8,900 psi
Flexural Strength	D-790	13,500 psi
Flexural Modulus	D-790	345,000 psi
Rockwell Hardness	D-785	112 R
Specific Gravity	D-792	1.20
HDTUL Unannealed (284 psi)	D-648	270°F
Mold Shrinkage	D-955	0.005-0.007 in/in
Melt Flow Index	D-1238 (300°C/1.2kg)	5.0 g/10 min

ASTM E 84 - CLASS A RATING:

	Flame Spread Index	Smoke Developed Index
Class A	0-25	0-450

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- CHARACTERIZES THE RELATIVE RATE AT WHICH FLAME WILL SPREAD AS THE SUBJECT MATERIAL BURNS.

UL94 FLAMMABILITY RATING:

- SPECIMENS MAY NOT BURN WITH FLAMING COMBUSTION FOR MORE THAN 30 SECONDS AFTER EITHER APPLICATION OF THE TEST FLAME.
- THE STANDARD FOR SAFETY OF FLAMMABILITY OF PLASTIC MATERIALS

DESCRIPTION:

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	NAME	DATE
DESIGNED BY: J. JOHNSON	J. JOHNSON	08/04/14
CHECKED BY: H. QUINN	H. QUINN	08/04/14
ENG APPR. BY: G. CARROLL	G. CARROLL	08/04/14
MFG APPR. BY: V. DEAN	V. DEAN	08/04/14
QA BY: G. ISAAC	G. ISAAC	08/04/14

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THE VISIONARY COMPANY
BRADENTON, FL 34205 1-941-751-2233 WWW.VIZCO.COM

TITLE: TOUGH PANS 23" CONTRACTOR SERIES

SIZE DWG. NO. REV
B A

SHEET 1 OF 1

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