



U.S. Department  
of Transportation

**Research and  
Special Programs  
Administration**

400 Seventh Street, S.W.  
Washington, D.C. 20590

JAN 29 1998

Mr. Robert J. Ten Eyck  
Director, Technical Services  
Ten-E Packaging Services, Inc.  
1666 County Road 74  
Newport, Minnesota 55055

Dear Mr. Ten Eyck:

This is in response to your letter of October 9, 1997, requesting clarification on the requirements for testing packagings under the Hazardous Materials Regulations (HMR; 49 CFR parts 171-180). Specifically you ask whether a UN 3H1 drum which was tested and certified with one 2" buttress threaded plastic plug and one 2" NPS threaded plastic plug may be changed to two 2" buttress threaded plastic plugs without further testing of the packaging.

The answer is yes. The original test was performed with one of each of the closures (i.e., one buttress and one NPS). The closures may then be changed to two buttress or two NPS without further testing.

I hope this information is helpful.

Sincerely,

A handwritten signature in cursive script that reads "Delmer F. Billings".

Delmer F. Billings  
Chief, Regulations Development  
Office of Hazardous Materials Standards



1666 County Road 74  
Newport, Minnesota 55055  
Phone: 612-459-0671  
Fax: 612-459-1430

Posten  
File 178.601  
SC 3/2,

October 9, 1997

Diane LaValle  
U.S. Department of Transportation  
Research and Special Programs Administration  
Office of Hazardous Materials Safety  
DHM-11  
400 7<sup>th</sup> Street S.W.  
Washington, DC 20590

Dear Diane:

TEN-E Packaging Services is writing to request a formal interpretation on changing closure systems on a UN 3H1 specification drum. The subject package was certified with (1) 2" Buttress Threaded Plastic Plug and (1) 2" NPS Threaded Plastic Plug under TEN-E Packaging Services' Report #15651. The drum manufacturer wishes to offer the drum with (2) 2" Buttress Threaded Plastic Plugs and it is our opinion that this does not constitute a different package as defined in Section 178.601(c)(4) of Title 49 CFR. In other words, we do not believe the closure change should require any additional testing to meet UN standards.

A copy of the Test Sample Description, Quality Control Audit and UN Certification pages from Report #15651 are enclosed for your review.

TEN-E Packaging Services looks forward to your written response on this regulatory matter.

Sincerely,

  
Robert J. Ten Eyck  
Director, Technical Services



**TEST SAMPLE DESCRIPTION**

**SST TS 1360 - FB NA - 15 Gallon Tight Head HDPE Jerrican**

**BUTTRESS CLOSURE**

**DESCRIPTION:** 2" Buttress Threaded  
Bung Plug

**MATERIAL:** High Density Polyethylene

**GASKET:** Polyethylene B-4

**FINISH DIMENSIONS:**

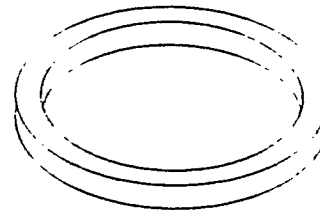
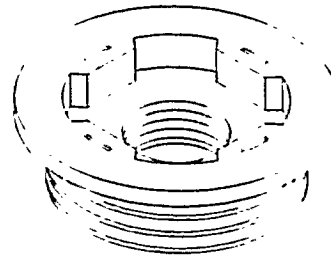
- **T:** Not Specified
- **E:** Not Specified

**OVERALL DIMENSIONS:**

- **Height:** Not Specified
- **Diameter:** Not Specified

**SUPPLIER / MANUFACTURER / ID:**

Not Specified



**NPT CLOSURE**

**DESCRIPTION:** 2" NPS Threaded Bung Plug

**MATERIAL:** High Density Polyethylene

**GASKET:** Rubber

**FINISH DIMENSIONS:**

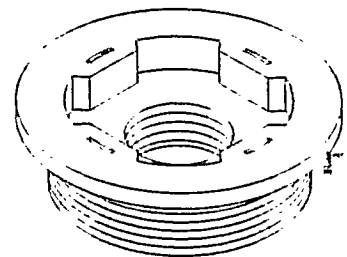
- **T:** Not Specified
- **E:** Not Specified

**OVERALL DIMENSIONS:**

- **Height:** Not Specified
- **Diameter:** Not Specified

**SUPPLIER / MANUFACTURER / ID:**

Not Specified



**TEST SAMPLE DESCRIPTION**

**SST TS 1360 - FB NA - 15 Gallon Tight Head HDPE Jerrican**

**JERRICAN**

**DESCRIPTION:**

15 Gallon Rectangular Jerrican

**MATERIAL:**

Novacore High Density Polyethylene or Equivalent

**PIGMENT:** Natural

**TARE WEIGHT:** 7.6 Lbs.

**CAPACITY:**

- **Nominal:** 15 Gallons
- **Overflow:** 15.9 Gallons

**OVERALL DIMENSIONS:**

- **Length:** 15-7/8"
- **Width:** 13-1/8"
- **Height:** 23-1/8"

**WALL THICKNESS:**

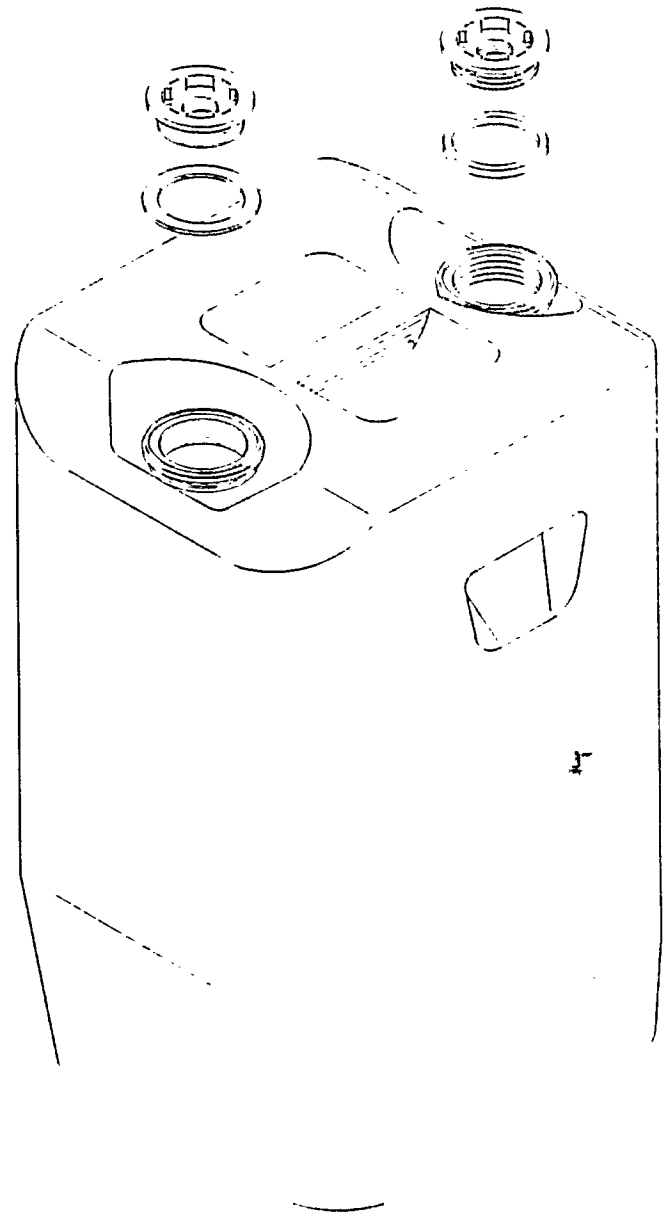
Not Specified

**NECK DIMENSIONS:**

- **T:** Not Specified
- **E:** Not Specified

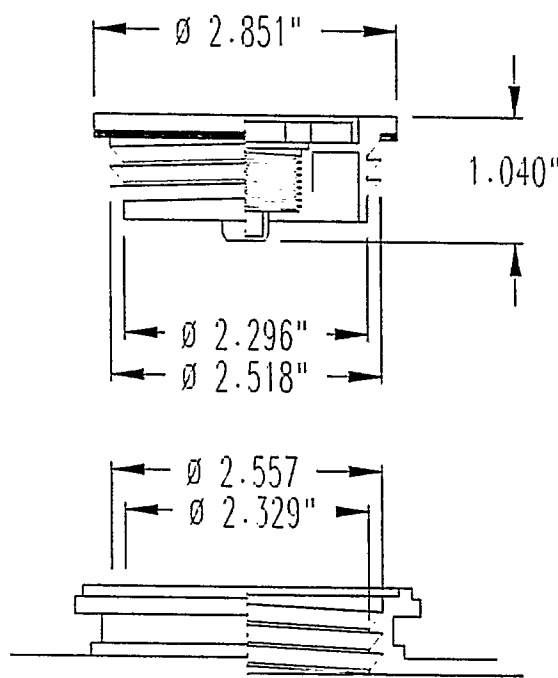
**SUPPLIER / MANUFACTURER:**

SST Industries



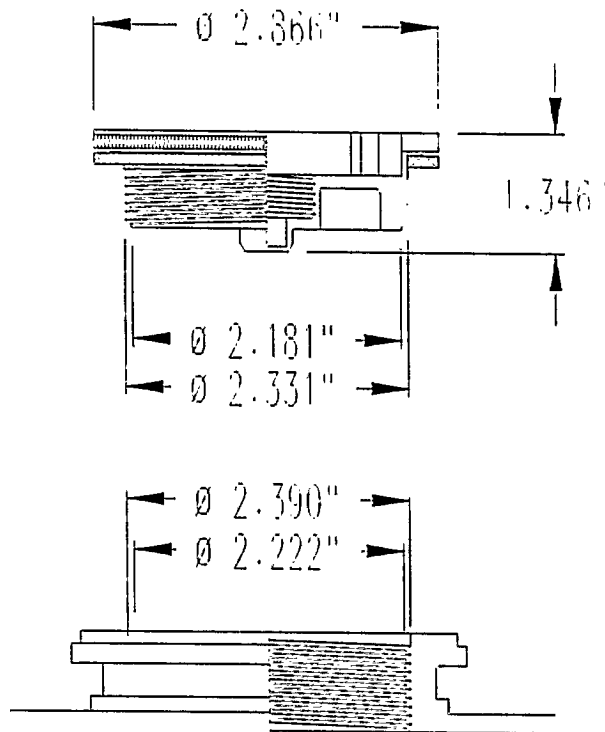
**QUALITY CONTROL/AUDIT RESULTS**

Testing was completed by TEN-E Packaging Services, Inc. on September 16, 1997. The following dimensions, weights and material audits were performed by TEN-E Packaging Services to document the package design:

<b>BUTTRESS</b>	
• <b>Description:</b>	2" Threaded Buttress Closure
• <b>Material/Pigment:</b>	Low Density Polyethylene; Natural • <b>Density:</b> 0.919 g/cc
• <b>Tare Weight:</b>	32.28 Grams
• <b>Markings:</b>	Rieke® Buttress 5
<b>Overall Closure/Opening Dimensions</b>	
	
<b>GASKET</b>	
• <b>Material:</b>	Polyethylene Based, B-4 ("Sticky" Material)
• <b>Tare Weight:</b>	2.42 Grams
• <b>Thickness:</b>	0.123"

**QUALITY CONTROL AUDIT RESULTS - Continued**
**NPT**

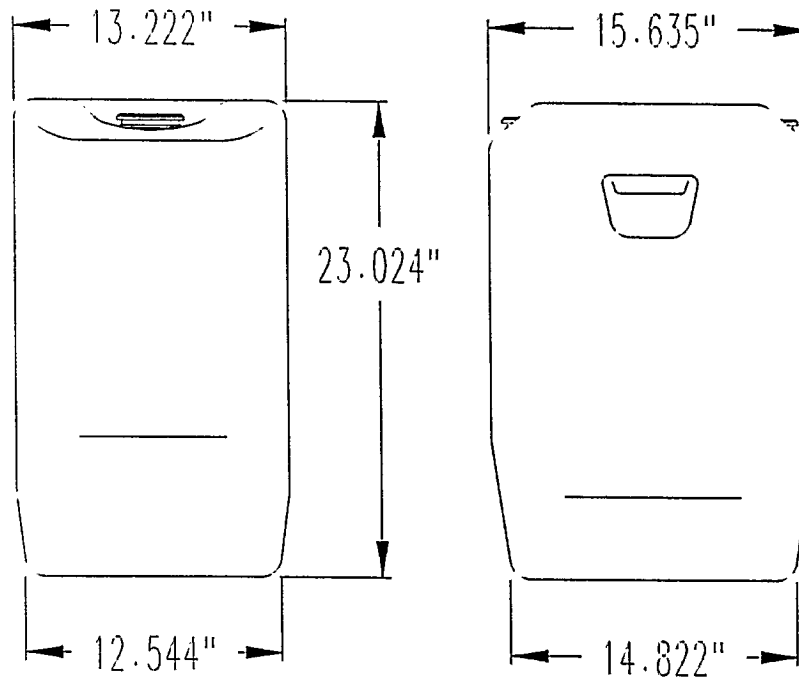
- |                            |                                   |                   |            |
|----------------------------|-----------------------------------|-------------------|------------|
| • <b>Description:</b>      | 2" Threaded NPT Closure           | • <b>Density:</b> | 0.920 g/cc |
| • <b>Material/Pigment:</b> | Low Density Polyethylene; Natural |                   |            |
| • <b>Tare Weight:</b>      | 31.35 Grams                       |                   |            |
| • <b>Markings:</b>         | None                              |                   |            |

**Overall Closure/Opening Dimensions**

**GASKET**

- |                       |            |
|-----------------------|------------|
| • <b>Material:</b>    | EPDM       |
| • <b>Tare Weight:</b> | 3.71 Grams |
| • <b>Thickness:</b>   | 0.11       |

**QUALITY CONTROL AUDIT RESULTS - Continued**
**JERRICAN**

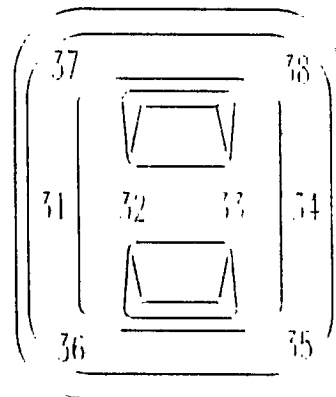
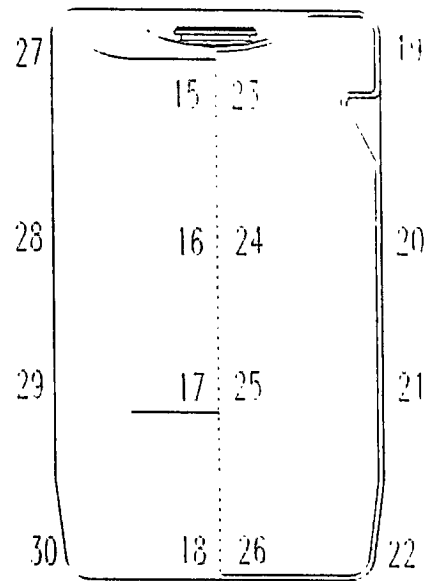
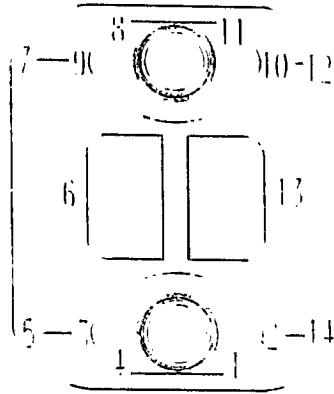
• <b>Description:</b>	15 Gallon Rectangular Jerrican with Molded-In Handle and Tapered Sidewalls with (1) 2" Buttress and (1) 2" NPT Opening		
• <b>Material:</b>	High Density Polyethylene		
• <b>Pigment:</b>	Natural		
• <b>Tare Weight:</b>	3465 Grams		
• <b>Overflow Capacity:</b>	15.71 Gallons	131.0 Lbs.	
• <b>98% Overflow:</b>	15.40 Gallons	128.4 Lbs.	
• <b>Melt Index (I<sup>21</sup>):</b>	5.58 g/10 minutes		
• <b>Density:</b>	0.945 g/cc		
• <b>Markings:</b>	(u) 3H1/Y1.9/100/97 (n) USA/+AP1755/1.8mm	SST Industries Loveland, OH	7-10-97 Pat. Pend. SPI "2" HDPE Recycling Symbol

**Overall Dimensions**

**PACKAGE WEIGHT INFORMATION**

• <b>Overall Package Tare Weight:</b>	3728 Grams	(8.2 Lbs.)
• <b>Package Test Weight:</b>	61.9 Kg	(136.6 Lbs.)

**WALL THICKNESS PROFILE (inches) - TENE PACKAGING SERVICES QC AUDIT**
**SST TS 1360 - FB NA - 15 Gallon Tight Head HDPE Jerrican**

Measurement Location	Msmt I.D.	Sample #1
TOP HEAD	1	.248
	2	.114
	3	.128
	4	.265
	5	.089
	6	.108
	7	.086
	8	.248
	9	.130
	10	.118
	11	.258
	12	.081
	13	.090
	14	.078
SIDEWALL	15	.265
	16	.233
	17	.150
	18	.251
	19	.106
	20	.195
	21	.208
	22	.091
	23	.265
	24	.222
	25	.163
	26	.267
	27	.119
	28	.251
	29	.182
	30	.117
BTM HEAD	31	.128
	32	.221
	33	.183
	34	.104
	35	.101
	36	.117
	37	.108
	38	.092



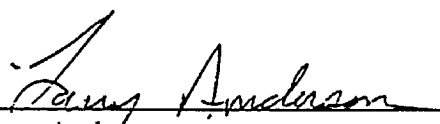




**DOT / UN PACKAGING CERTIFICATION  
 PERIODIC RETEST**

TEN-E PACKAGING SERVICES, INC. certifies that the SST- TS-1360 (15 Gallon) Tight Head HDPE Jerrican has passed the standards of the DEPARTMENT OF TRANSPORTATION'S TITLE 49 CFR; Performance Oriented Packaging Standards, Section 178. This package is also certified in accordance with the requirements set forth by IMDG, ICAO, IATA and the UN Recommendations on the Transport of Dangerous Goods. It is the responsibility of the end user to determine authorization for use under these regulations. The use of other packaging methods or components other than those documented in this report may render this certification invalid.

<b>PACKAGE DESCRIPTION:</b>	15 Gallon Tight Head HDPE Jerrican SST TS 1360 - (New Gasket)			
<b>TEST REPORT NUMBER (S):</b>	15651, 14079			
<b>UN MARKING: (CFR 49 - 178.503)</b>	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="text-align: center;">u</td> <td rowspan="2" style="padding-left: 10px;">3H1 / Y1.8 / 100 / ** USA / +AA1459</td> </tr> <tr> <td style="text-align: center;">n</td> </tr> </table>	u	3H1 / Y1.8 / 100 / ** USA / +AA1459	n
u	3H1 / Y1.8 / 100 / ** USA / +AA1459			
n				
<b>PACKAGING IDENTIFICATION CODE:</b>	3H1 - Section (178.509)			
<b>AUTHORIZED PACKING GROUP (S):</b>	II (Y) & III (Z)			
<b>MAXIMUM PRODUCT SPECIFIC GRAVITY:</b>	1.8			
<b>INTERNAL TEST PRESSURE:</b>	100 kPa (Refer to 173.24a(b)(4))			
<b>YEAR OF MANUFACTURE:</b>	**Insert year the packaging is manufactured			
<b>STATE AUTHORIZING THE MARK:</b>	USA			
<b>PACKAGING CERTIFICATION AGENCY:</b>	(+AA) TEN-E Packaging Services, Inc.			
<b>THIRD PARTY PACKAGE IDENTIFICATION:</b>	+AA1459			
<b>PERIODIC RETEST DATE:</b>	September 16, 1998			

  
 Larry Anderson  
 Manager, Technical Services  
 TEN-E Packaging Services, Inc.

ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY THAT THE PACKAGING TESTED IS MERCHANTABLE OR FIT FOR A PARTICULAR PURPOSE, ARE DISCLAIMED. In no event shall TEN-E Packaging Services, Inc. liability exceed the total amount paid by SST Industries, Inc. for services rendered. In the event of future changes to the above referenced test standard, it is the responsibility of SST Industries, Inc. to determine whether additional testing or updating of past testing is necessary to verify that the packaging we have tested remains in compliance with those standards.



1666 County Road 74  
Newport, Minnesota 55055  
Phone: 612-459-0671  
Fax: 612-459-1430

*Posten  
file 178 601  
SC: 3/2,*

October 9, 1997

Diane LaValle  
U.S. Department of Transportation  
Research and Special Programs Administration  
Office of Hazardous Materials Safety  
DHM-11  
400 7<sup>th</sup> Street S.W.  
Washington, DC 20590

Dear Diane:

TEN-E Packaging Services is writing to request a formal interpretation on changing closure systems on a UN 3H1 specification drum. The subject package was certified with (1) 2" Buttress Threaded Plastic Plug and (1) 2" NPS Threaded Plastic Plug under TEN-E Packaging Services' Report #15651. The drum manufacturer wishes to offer the drum with (2) 2" Buttress Threaded Plastic Plugs and it is our opinion that this does not constitute a different package as defined in Section 178.601(c)(4) of Title 49 CFR. In other words, we do not believe the closure change should require any additional testing to meet UN standards.

A copy of the Test Sample Description, Quality Control Audit and UN Certification pages from Report #15651 are enclosed for your review.

TEN-E Packaging Services looks forward to your written response on this regulatory matter.

Sincerely,

  
Robert J. Ten Eyck  
Director, Technical Services



**TEST SAMPLE DESCRIPTION**

**SST TS 1360 - FB NA - 15 Gallon Tight Head HDPE Jerrican**

**BUTTRESS CLOSURE**

**DESCRIPTION:** 2" Buttress Threaded  
Bung Plug

**MATERIAL:** High Density Polyethylene

**GASKET:** Polyethylene B-4

**FINISH DIMENSIONS:**

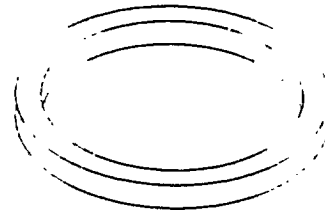
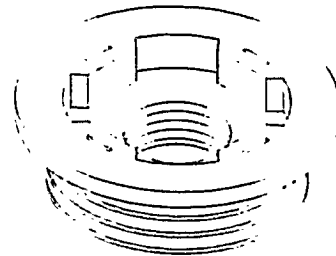
- **T:** Not Specified
- **E:** Not Specified

**OVERALL DIMENSIONS:**

- **Height:** Not Specified
- **Diameter:** Not Specified

**SUPPLIER / MANUFACTURER / ID:**

Not Specified



**NPT CLOSURE**

**DESCRIPTION:** 2" NPS Threaded Bung Plug

**MATERIAL:** High Density Polyethylene

**GASKET:** Rubber

**FINISH DIMENSIONS:**

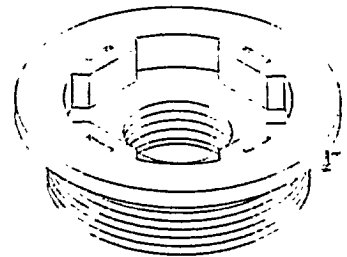
- **T:** Not Specified
- **E:** Not Specified

**OVERALL DIMENSIONS:**

- **Height:** Not Specified
- **Diameter:** Not Specified

**SUPPLIER / MANUFACTURER / ID:**

Not Specified



**TEST SAMPLE DESCRIPTION**

SST TS 1360 - FB NA - 15 Gallon Tight Head HDPE Jerrican

**JERRICAN**

**DESCRIPTION:**

15 Gallon Rectangular Jerrican

**MATERIAL:**

Novacore High Density Polyethylene or Equivalent

**PIGMENT:** Natural

**TARE WEIGHT:** 7.6 Lbs.

**CAPACITY:**

- **Nominal:** 15 Gallons
- **Overflow:** 15.9 Gallons

**OVERALL DIMENSIONS:**

- **Length:** 15-7/8"
- **Width:** 13-1/8"
- **Height:** 23-1/8"

**WALL THICKNESS:**

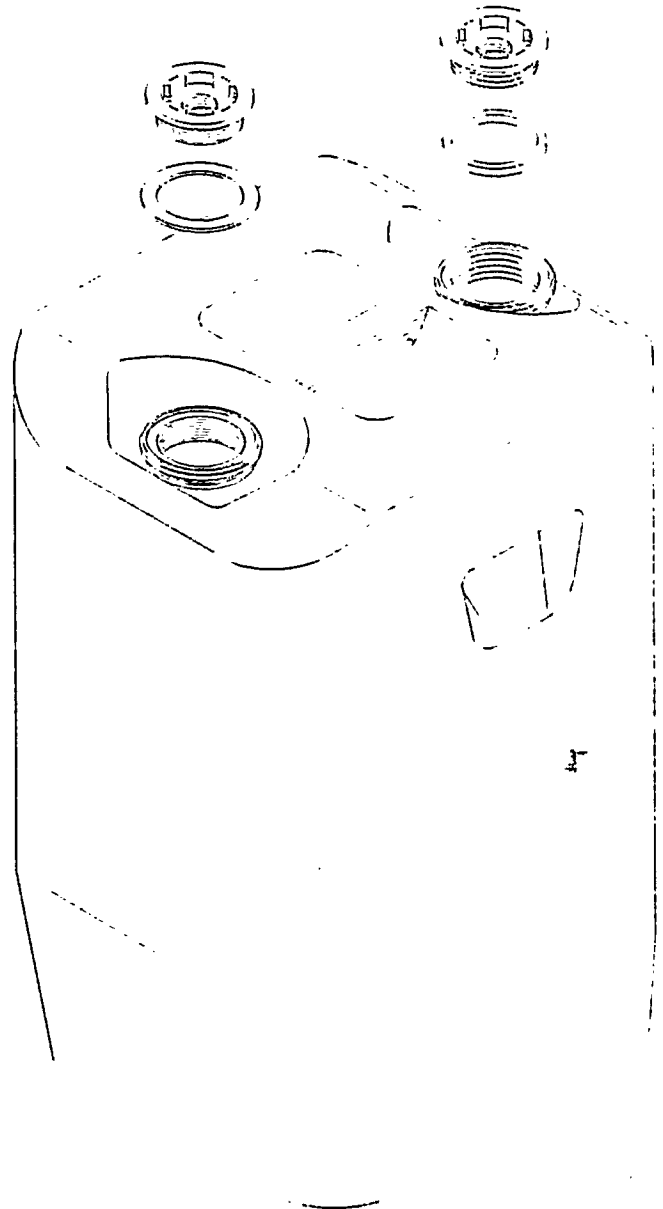
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**NECK DIMENSIONS:**

- **T:** Not Specified
- **E:** Not Specified

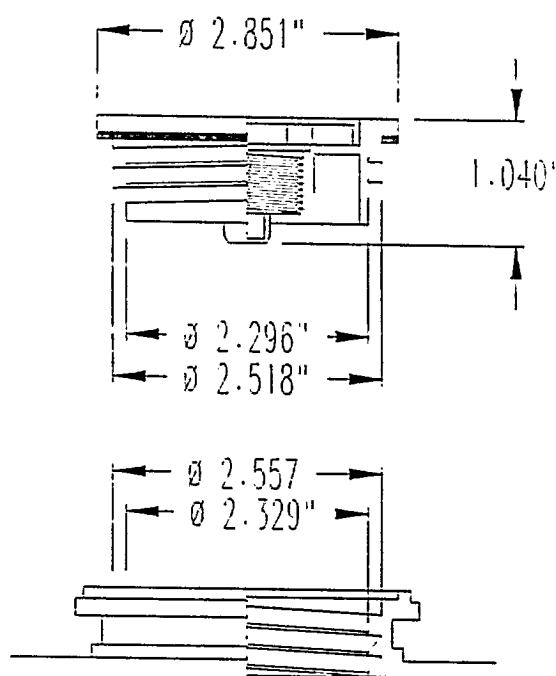
**SUPPLIER / MANUFACTURER:**

SST Industries



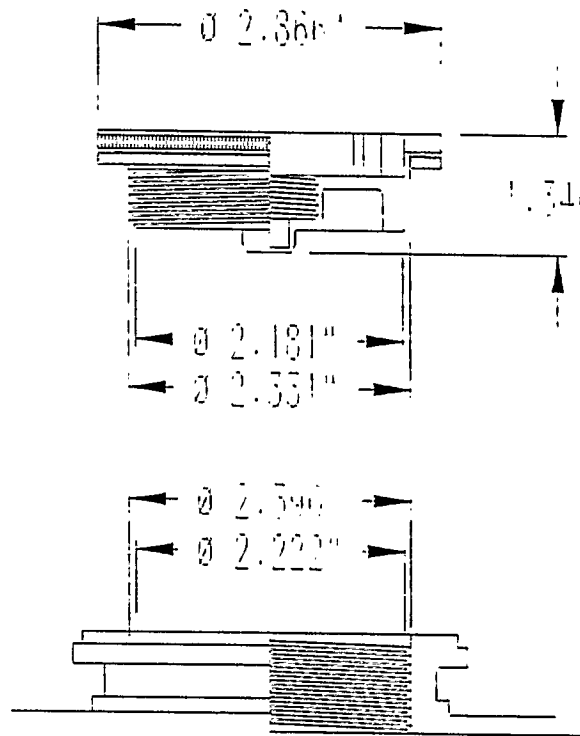
**QUALITY CONTROL AUDIT RESULTS**

Testing was completed by TEN-E Packaging Services, Inc. on September 16, 1997. The following dimensions, weights and material audits were performed by TEN-E Packaging Services to document the package design:

<b>BUTTRESS</b>	
• <b>Description:</b>	2" Threaded Buttress Closure
• <b>Material/Pigment:</b>	Low Density Polyethylene; Natural • <b>Density:</b> 0.919 g/cc
• <b>Tare Weight:</b>	32.28 Grams
• <b>Markings:</b>	Rieke® Buttress 5
<b>Overall Closure/Opening Dimensions</b>	
	
<b>GASKET</b>	
• <b>Material:</b>	Polyethylene Based, B-4 ("Sticky" Material)
• <b>Tare Weight:</b>	2.42 Grams
• <b>Thickness:</b>	0.123"

**QUALITY CONTROL AUDIT RESULTS - Continued**
**NPT**

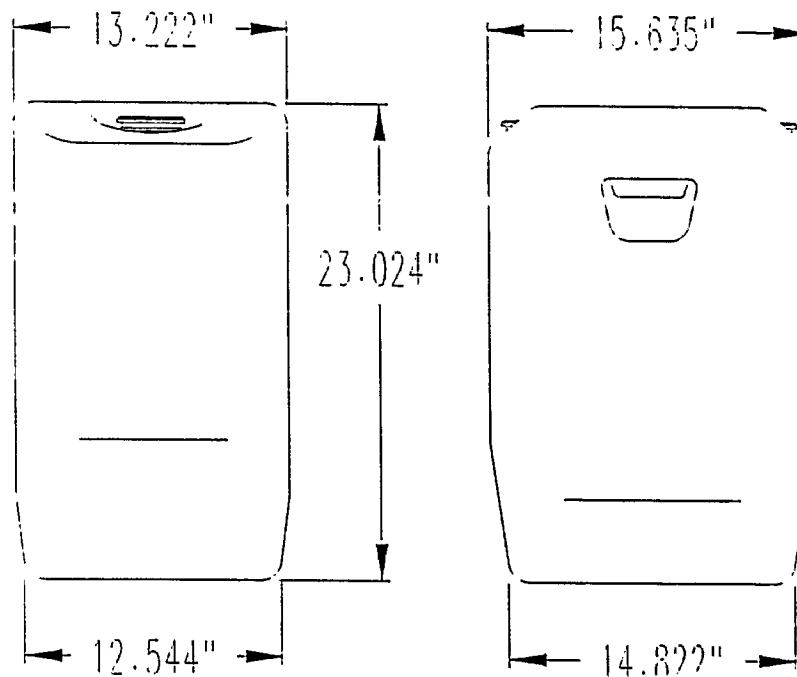
• Description:	2" Threaded NPT Closure	
• Material/Pigment:	Low Density Polyethylene; Natural	• Density: 0.920 g/cc
• Tare Weight:	31.35 Grams	
• Markings:	None	

**Overall Closure/Opening Dimensions**

**GASKET**

• Material:	EPDM
• Tare Weight:	3.71 Grams
• Thickness:	0.11

**QUALITY CONTROL AUDIT RESULTS - Continued**
**JERRICAN**

• <b>Description:</b>	15 Gallon Rectangular Jerrican with Molded-In Handle and Tapered Sidewalls with (1) 2" Buttress and (1) 2" NPT Opening		
• <b>Material:</b>	High Density Polyethylene		
• <b>Pigment:</b>	Natural		
• <b>Tare Weight:</b>	3465 Grams		
• <b>Overflow Capacity:</b>	15.71 Gallons	131.0 Lbs.	
• <b>98% Overflow:</b>	15.40 Gallons	128.4 Lbs.	
• <b>Melt Index (I<sup>21</sup>):</b>	5.58 g/10 minutes		
• <b>Density:</b>	0.945 g/cc		
• <b>Markings:</b>	(u) 3H1/Y1.9/100/97 (n) USA/+AP1755/1.8mm	SST Industries Loveland, OH	7-10-97 Pat. Pend. SPI "2" HDPE Recycling Symbol

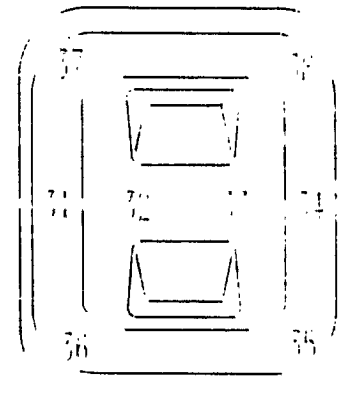
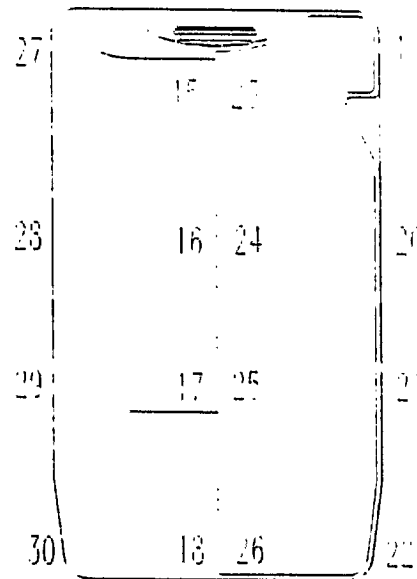
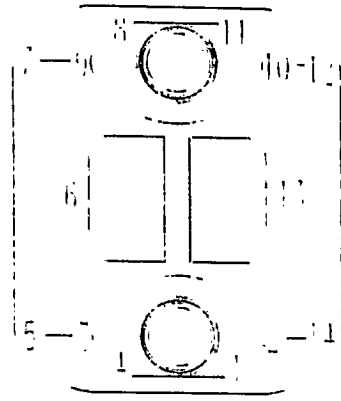
**Overall Dimensions**

**PACKAGE WEIGHT INFORMATION**

• <b>Overall Package Tare Weight:</b>	3728 Grams	(8.2 Lbs.)
• <b>Package Test Weight:</b>	61.9 Kg	(136.6 Lbs.)

**WALL THICKNESS PROFILE (inches) - TENE PACKAGING SERVICES QC AUDIT**

SST TS 1360 - FB NA - 15 Gallon Tight Head HDPE Jerrican

Measurement Location	Msmt I.D.	Sample #1
TOP HEAD	1	.248
	2	.114
	3	.128
	4	.265
	5	.089
	6	.108
	7	.086
	8	.248
	9	.130
	10	.118
	11	.258
	12	.081
	13	.090
	14	.078
SIDEWALL	15	.265
	16	.233
	17	.150
	18	.251
	19	.106
	20	.195
	21	.208
	22	.091
	23	.265
	24	.222
	25	.163
	26	.267
	27	.119
	28	.251
	29	.182
	30	.117
BTM HEAD	31	.128
	32	.221
	33	.183
	34	.104
	35	.101
	36	.117
	37	.108
	38	.092



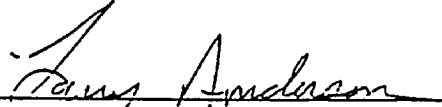




**DOT / UN PACKAGING CERTIFICATION  
PERIODIC RETEST**

TEN-E PACKAGING SERVICES, INC. certifies that the SST- TS-1360 (15 Gallon) Tight Head HDPE Jerrican has passed the standards of the DEPARTMENT OF TRANSPORTATION'S TITLE 49 CFR; Performance Oriented Packaging Standards, Section 178. This package is also certified in accordance with the requirements set forth by IMDG, ICAO, IATA and the UN Recommendations on the Transport of Dangerous Goods. It is the responsibility of the end user to determine authorization for use under these regulations. The use of other packaging methods or components other than those documented in this report may render this certification invalid.

PACKAGE DESCRIPTION:	15 Gallon Tight Head HDPE Jerrican SST TS 1360 - (New Gasket)		
TEST REPORT NUMBER (S):	15651, 14079		
UN MARKING: (CFR 49 - 178.503)	<table border="0"><tr><td style="text-align: center;">(u n)</td><td>3H1 / Y1.8 / 100 / ** USA / +AA1459</td></tr></table>	(u n)	3H1 / Y1.8 / 100 / ** USA / +AA1459
(u n)	3H1 / Y1.8 / 100 / ** USA / +AA1459		
PACKAGING IDENTIFICATION CODE:	3H1 - Section (178.509)		
AUTHORIZED PACKING GROUP (S):	II (Y) & III (Z)		
MAXIMUM PRODUCT SPECIFIC GRAVITY:	1.8		
INTERNAL TEST PRESSURE:	100 kPa (Refer to 173.24a(b)(4))		
YEAR OF MANUFACTURE:	**Insert year the packaging is manufactured		
STATE AUTHORIZING THE MARK:	USA		
PACKAGING CERTIFICATION AGENCY:	(+AA) TEN-E Packaging Services, Inc.		
THIRD PARTY PACKAGE IDENTIFICATION:	+AA1459		
PERIODIC RETEST DATE:	September 16, 1998		

  
Larry Anderson  
Manager, Technical Services  
TEN-E Packaging Services, Inc.

ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY THAT THE PACKAGING TESTED IS MERCHANTABLE OR FIT FOR A PARTICULAR PURPOSE, ARE DISCLAIMED. In no event shall TEN-E Packaging Services, Inc. liability exceed the total amount paid by SST Industries, Inc. for services rendered. In the event of future changes to the above referenced test standard, it is the responsibility of SST Industries, Inc. to determine whether additional testing or updating of past testing is necessary to verify that the packaging we have tested remains in compliance with those standards.