

Subject: 49 CFR 178.2c- Notification

In accordance with the Department of Transportation Title 49, Code of Federal Regulations (49 CFR), container manufacturers are required to notify each person to whom the container is transferred of all requirements not met at the time of transfer and of all the necessary materials and procedures to prepare the containers that when closed for shipment are capable of meeting the performance standards indicated by the UN marking on the side of the container.

The following instructions and guidelines are given to purchasers of containers made or re-manufactured by our company in accordance with the requirements of 49 CFR 178.2c and 178.601b.

IBC Closing Statement

All IBC's should be closed after filling and before transportation in accordance with the recommended plug cap torque as stated below.

Correct Closing Torque For 6" Caps

| <u>Manufacture</u> | <u>Cap Type</u> | <u>Tightening Torque</u> |
|----------------------|-------------------|--------------------------|
| Schuetz | 6" Polyethylene | 75 FT. LB |
| Mauser | 6" Polyethylene | 70 FT. LB |
| Greif | 6" Polyethylene | 45 FT. LB. |
| IBCNA | 6" Polyethylene | 55 FT. LB |
| SonoBulk | 6" Polyethylene | 45 FT. LB. |
| <u>Cap/ 2" Plugs</u> | <u>Gasket</u> | <u>Tightening</u> |
| 2" Polyethylene | EPDM | 20 FT. LB. |
| | Santoprene Rubber | 20 FT. LB. |
| | Polyethylene | 20 FT. LB. |

Unit of Measurement

FT. LB. = Foot Pound Torque
1 FT. LB. = .7736 Joule/M (Newtons)

Drum Closing Instructions

In order that the reconditioned drum supplied to you performs to the UN designation specified and your contents are packaged in a safe and responsible manner the following closure instructions need to be specifically followed. The substitution and use of any other drum components (rings, gaskets, or fittings) not supplied with this product, or the use of any other method of assembly or closure is not recommended since it may negatively affect the performance of your drum.

Open Top Drums with Bolted Ring Closure

1. Place cover on drum
2. Place the bolt ring over the cover and top lip (the curl) of the drum with the lugs pointed downward opposite the seam. Make sure the bottom edge of the ring engages the drum curl.
3. Insert the bolt through the unthreaded lug, then through the nut which must be between the lugs. Next, thread the bolt through the threaded lug.
4. Tighten the bolt to 75 foot pound of torque while reducing the gap between the ends of the rings to between 1/8 and 3/8 inch. You may need to tap on the ring while tightening with a soft mallet to attain the correct ring gap.
5. Tighten the nut against the unthreaded lug to prevent the bolt from backing out.

Closed Top Drums and Open Top Drums with Fitting

1. Insure gaskets are flat and properly seated against the base of the fitting. This will assist in maintaining gasket integrity.
2. Gently screw in fitting (to avoid cross threading) until fitting is snug.
3. Using a torque wrench, tighten each fitting to the torque below.

| Fitting type | Trisure® | | | Rieke® | | |
|-----------------|----------|------|------|--------|------|------|
| | Steel | | Poly | Steel | | Poly |
| Gasket Material | Rubber | Poly | | Rubber | Poly | |
| Size of fitting | | | | | | |
| 2" | 20 | 22 | 20 | 30 | 40 | 20 |
| 1/4" | 12 | 18 | 8 | 15 | 20 | 9 |

All measurements are in foot-pounds

DOT REQUIRED NOTIFICATION STATEMENT

The recent general revision of the DOT's Hazardous Materials Regulations (HM-181) requires that manufactures of the packaging of hazardous materials notify their customers in writing of:

- 1) Any packaging specification requirements that are not met when the empty packages are shipped, and
- 2) Information on closure needed to satisfy the performance test requirements.

The following NOTIFICATION STATEMENT is intended to comply with that regulatory requirement.

Full Open Top Steel Drum with Bolted Ring Closure

- Place drum liner (bag) into drum, fold over the sides of the drum at the top.
- Fill the drum, as it is filling continue pulling the liner upright.
- Twist the poly bag, and seal it by placing duct tape 10" from the end of the bag.
- Fold Bag inside drum.
- Place cover on the drum with 2" opening 90° degrees away from side seam of drum.
- Snap the closing ring over the cover and top lip of the drum, making sure the ring juncture is 90° degrees away from 2" opening and 180° degrees away from side seam. Also, make sure the ring's lugs point down below the ring and the bottom edge of the closing ring engages under the lip of the drum.
- Insert the bolt through the lug without threads. Next, screw on the locking nut. Finally, screw the bolt into the thread lug.
- While tightening the bolt, tap the entire perimeter of the ring with a mallet, starting directly across from the bolt.
- Tighten the bolt (the cover and ring should not spin) until the free ends of the rim should have a 5/8" space maximum.
- Tighten the locking nut against the lug without threads. This prevents the bolt from backing out of the closing ring.
- Drums closed in this manner have met the UN performance test requirement as specified in the container markings.

Open Head Drum with Fittings

- Insert and tighten all fittings into their appropriate threaded flanges until snug.
- Using a torque wrench, tighten each fitting to the correct torque. See the list below for correct torques. Torques are based on closure manufacturer's recommendations.
- If this is an open head drum, follow the additional closing instructions for top head.
- Drums closed in this manner have met the UN performance test requirements as specified in the container markings.

Fittings:

| <u>Brand</u> | <u>Size/Thread</u> | <u>Flange</u> | <u>Plug</u> | <u>Gasket</u> | <u>Torque</u> <u>Foot</u> | |
|--------------|--------------------|---------------|-------------|---------------|------------------------------|----|
| Rieke | 2" Lbs | NPT | Steel | Nylon | L.D. Polyethylene | 20 |
| Rieke | ¾" | NPT | Steel | Nylon | L.D. Polyethylene | 09 |
| Rieke | 2" | NPT | Steel | Steel | L.D. Polyethylene | 40 |
| Rieke | ¾" | NPT | Steel | Steel | L.D. Polyethylene | 20 |

NOTIFICATION: CFR TITLE 49 PART 178.2 (c)

3H1 Jerrican, 18 mm Secondary Vent Closure
(Mold # 154)

PRE-CERTIFIED UN 3H1 PACKAGING

5 Gallon Plastic Jerrican with Tamper Evident
Neck Finish & 18mm Vent.

COMPONENT CHECK LIST:

Quantity Description

- (1) **Primary Closure: SC70EPDMTE-3/4 High Density Polyethylene
70mm Tamper Evident Buttress Threaded Closure with 3/4 Reducer.
Gasket: Black EPDM 2.46" O.D. X 2.13" I.D. X 0.097"mm Thick
Finish Style: 70mm Buttress**

- (1) **Vent Access Closure:
Air Vent Threads: 18mm
Closure: Cap, PolySeal, C18/400 FRST Polypropylene, White.
Liner: Laminated PE Foam. Glued In.**

- (1) **Jerrican: 5 Gallon, High Density Polyethylene
Finish Style: 70mm Buttress**

**Note: Substitution of any of the components listed above
may render the UN certification invalid**

Packaging Suitability

- 1. Packaging has been certified for Packaging Group II and III liquids
with specific gravities not exceeding 1.8**

- 2. The internal pressure test required for air shipment has been conducted
Test Level = 100 kPa (14.5 psi; refer to 173.24a(b)(4))**

It is the shipper's responsibility to ensure that:

- 1. The packaging is authorized for the intended hazardous material.**

- 2. The packaging is compatible with its lading, and**

- 3. The packaging meets all general shipper requirements of 173.24 and 173.24 (a).**

NOTIFICATION: CFR TITLE 49 PART 178.2 (c)

3H1 Jerrican, 18 mm Secondary Vent Closure
(Mold # 154)

PRE-CERTIFIED UN 3H1 PACKAGING

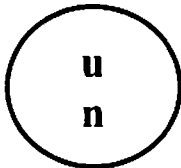
5 Gallon Plastic Jerrican with Tamper Evident
Neck Finish & 18mm Vent.

Packaging Assembly:

1. Once filled, the primary closure must be applied to the bottle using an application torque of 120 in-lbs (9.99 ft-lbs) using a torque wrench with force indicator.
2. Once filled, the packager must ensure that the vent access closure is hand tightened on the jerrican to preclude loss in shipment.

Note: Failure to follow the packaging assembly instructions listed above may render the UN certification invalid

Explanation of UN Marking



3H1 / Y1.8 / 100 / **
USA / +AA2647

Marking

3H1

Y

1.8

100

**

USA

+AA2647

Explanation

Packaging Identification Code 3H1, Jerrican, Plastic, Closed Head

Packaging has been certified at Packaging group II, Test Levels (Y) which covers Packing Group II & III liquid hazardous materials

Maximum product Specific Gravity

Denotes Internal Test Pressure of 100 kPa (refer to 173.24a(b)(4))

Insert 2 digit year the packaging was manufactured ("08" = 2008)

Country authorizing allocation of the marking

Packaging tested and certified by a DOT Third Party Certification Agency



DOCUMENT NO:
QWI-00445

PROCESS:
17 - Production

PAGE 1 of 2

SD Drums Closing Instructions Pg
5-6

VERSION:
0.1

MODIFIED:
10/21/2010 11:55:01 AM

Uncontrolled copy; see footer for location of controlled document

1.0 Purpose:

In compliance with 49 CFR §178.2(c), persons shipping Letica Corporation containers must comply with the following closure instructions.

2.0 Application Methods:

| Letica Product | Recommended Mechanism | Material Type Packaged |
|-----------------------------|-----------------------|---|
| 5UND Container / 5LUND Lid | Pneumatic Press | Liquid Hazardous Materials Group II & III |
| 20NSU Container / 5LUND Lid | Pneumatic Press | Liquid Hazardous Materials Group II & III |

The Letica Corporation does not recommend the use of a mallet or roller closure for lid application. A pneumatic press is the recommended equipment for applying lids to Letica Corporation UN designated containers.

3.0 Pneumatic Press:

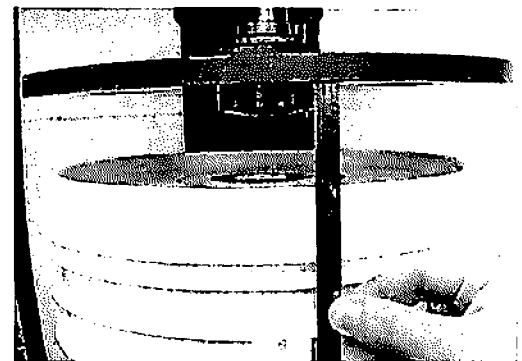
3.1 Design Criteria:

- 3.1.1 The frame of the pneumatic press and the surface Where the container stands must be of significant strength to resist deflection during the application of a lid.
- 3.1.2 The closing plate has to be parallel to the base, within 1/32" (.79 mm), and be of sufficient strength to withstand deflection during the application of a lid (the plate should be made of steel, have a minimum thickness of 1/4", and have a minimum diameter of 13").
- 3.1.3 A burp plug must be installed in the center of the closing plate. Dimensions for the burp plug are 2 3/4" in diameter and 3/4" in depth.



3.2 Press Setup:

- 3.2.1 The size and pressure of the pneumatic cylinder is dependent on the type of lid and pail. The 5 gallon and 20 liter pails meeting the requirements for UN liquid hazardous materials are to utilize a cylinder with a 6" minimum diameter. The air pressure supplied to this cylinder is to be a minimum of 90 psi of uninterrupted air (load = 2545# min) and is not to exceed 110 psi (load = 3110# max).
- 3.2.2 The height of the plate should be set to between 1.5" and 2.5" above the package with the lid positioned for closure.





DOCUMENT NO:
QWI-00445

PROCESS:
17 - Production

PAGE 2 of 2

SD Drums Closing Instructions Pg
5-6

VERSION:
0.1

MODIFIED:
10/21/2010 11:55:01 AM

Uncontrolled copy; see footer for location of controlled document

3.3 Lid Application:

Note: The fill level of the product in the container is not to interfere with the lid when closing.

- 3.3.1 Visually verify the container is undamaged including dents, nicks, scratches, etc.
- 3.3.2 Visually verify that the lid is undamaged, that any fittings are properly installed, and that there is a gasket fully installed in the lid.
- 3.3.3 Position the lid on the container with the fitting located between the handle attachment points. Be sure the lid is centered on the container.
- 3.3.4 Center the container / lid under the plate.
- 3.3.5 Confirm that the area is clear of anything that may potentially interfere with the plate travel and engage the closer. *The lid should lock with minimal hesitation (< 2 seconds) and produce an audible "snap".
- 3.3.6 Verify that the lid is fully locked and that the perimeter of the lid skirt is free from bulging or flaring. If the lid skirt is bulged or appears uneven it may indicate that the lid is not fully locked.

Caution: *Insufficient momentum of plate travel may result in incomplete closure.

*If difficulties are encountered in the closing process place any affected containers in quarantine and contact The Letica Corporation for further instructions.

4.0 Applicable Lid Attachments - No substitutes to the below identified attachments may be made.

| Lid | Attachments |
|-------|---|
| 5LUND | Plain Lid APC 25 Pour Spout APC 25 Pour Spout - Vented Tri-Sure 70mm Screw Cap Tri-Sure 70mm Screw Cap - Vented Uni-Grip Flexspout – Note: Available for 5-gallon applications only |

Application of the lid attachments is as follows:

- 4.1 The APC closures require the use of an APC Installation Press with the following specifications: pneumatic cylinder – air pressure 100 psi, 5 inch stroke, 4 inch diameter bore, floating piston – minimum air pressure of 25 psi.
- 4.2 A recommended torque of 9 +6 / -2 ft-lbs is to be applied on the Tri-Sure 70mm PLASTICAP™ (Screw Cap) with EPDM rubber gasket. (Nominal 9 ft-lbs, range 7 – 15 ft-lbs / 108 in-lbs, range 84 – 180 in-lbs).
- 4.3 A Tri-Sure "Uni-Grip Hold Down Unit" is the recommended method for the application of the Uni-Grip spouts. Verification of the crimp must be performed using a Uni-Grip Crimp On "Go" Gage.

Caution: **Improper installation of an attachment may result in leakage.**

CLOSURE INSTRUCTIONS FOR SOLIDS:

Packaging Components required:

- Appropriately marked UN/DOT certified M & M Industries pail
- Matching lid size with trigger attached, **gasketed or non-gasketed**

2.5, 3.5, 5.0 and 6.5 gallon NON-GASKETED lid: (Engraved MM on lid):

To close, seat lid on top of pail (engraved MM on bottom of pail). Rotate lid clockwise until the small window by the trigger (see Ill. 1) is located to the left of the mark (see Ill. 2) on the side of the pail and continue rotating until the lid is fully tightened (see Ill. 4). **Inspect lid after application to confirm it is properly seated.**

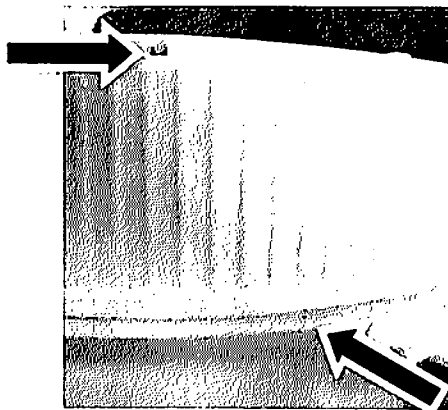
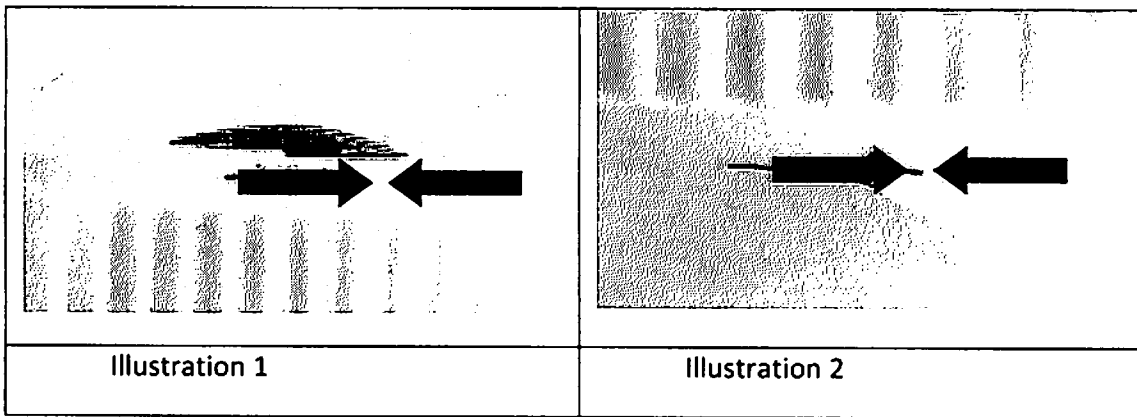


Illustration 4 – Example of lid fully tightened with window to left of mark on pail, non-gasketed lid

2.5, 3.5, 5.0 and 6.5 gallon GASKETED lid: (Marked MM on lid):

To close, seat lid on top of pail (Marked MM on bottom of pail). Rotate lid clockwise until the small window by the trigger (see Ill. 1) is located to the left of the UN mark (see Ill. 3) on the side of the pail and continue rotating until the lid is fully tightened (see Ill. 5). **Inspect lid after application to confirm it is properly seated.**

