

**ICS-CARGO CLEAN-CA, LLC  
CLOSURE NOTIFICATIONS FORM FOR UN DRUMS**

Pursuant to the requirements of the Department of Transportation in CFR 49 Part 178.2 (c)(1), this is your notification of the closing method used for the containers sold to you on the attached delivery ticket or bill of lading. This method of closure should be used to ensure that your containers have been closed in the same manner as when they were initially tested. If there is any question regarding proper closing methods, contact your Capital Drum sales person or manufacturing facility.

ur product may adversely affect the container materials, bung thread or closing devices. Product compatibility with the container is a shipper's responsibility.

These instructions for container closure are based upon the closure methods used to enable these containers to pass the United Nations test requirements as outlined by the UN marking on the package.

These closure recommendations do not take into account any hazards present in your facility or the handling, filling or shipping of your product. The use of spark-less tools and proper safety equipment is recommended. Consult your supervisor for your special safety precautions.

Any container used for packing of hazardous materials should be inspected prior to filling and shipment. Containers with obvious damage or deterioration should not be filled or shipped.

**OPEN HEAD STEEL DRUM ASSEMBLY**

1. Place cover on drum.
2. Snap the closing ring over the cover and top lip of the drum. Make sure the ring's lugs point down below the ring. Also make sure the bottom edge of the closing ring engages under the lip of the drum.
3. Insert the bolt through the lug without threads. Next, screw on the locking nut. Finally, screw bolt into the thread lug. A: Torque **75** ft-lbs.
4. While tightening the bolt, tap the entire perimeter of the ring with a mallet, starting directly across from the bolt.
5. Tighten bolt until snug. The cover and ring should not spin but the free ends of the rim should not touch.
6. Tighten locking nut of against lug without threads. This prevents the bolt from backing out of closing ring.
7. Drums closed in this manner have met the UN performance test requirements as specified in the container markings.

**FITTING INSTALLATION (OPEN HEAD AND CLOSE HEAD STEEL DRUMS)**

1. Insert and tighten all fittings into their appropriate threaded flanges until snug.
2. Using a torque wrench, tighten each fitting to the correct torque. See the list below for correct torques. Torque is based on closure manufacturer's recommendation.

TRISURE			REIKE			
PLUG SIZE	STEEL PLUGS		POLY PLUGS	STEEL PLUGS		POLY PLUGS
	POLY GASKET	OTHER GASKETS		POLY GASKET	OTHER GASKETS	
2"	30	20	30	40	30	20
¾"	20	12	12	20	15	9

**OPEN TOP PLASTIC DRUM ASSEMBLY**

1. Covers supplied with the drums must be attached to the drums with Lever-Action or Bolt Ring locking bands, as supplied with the drums.
2. For the steel or plastic Lever-Action locking band, the plastic cover is placed onto the top of the open head plastic drum and the channel shaped locking band is drawn around the cover by the lever closing device. For steel lock bands, the lever closing device is secure in place with a latching device that pivots which locks the handle in place. For plastic lock bands, the lever closing device is secured in place with the locking tab that protrudes through a slot in the handle.
3. For the Bolt-Ring locking band, the plastic cover is placed onto the top of the open-head plastic drum and the channel-shaped Bolt-Ring locking band is drawn by the bolt closing device and secured in place with a nut device. Tighten the bolt and nut until the gap between the ends of the locking band is no more than ¼", and verify that the cover and ring do not spin.
4. For covers with fitting: 2" fittings bearing NPS thread must be tightened to a torque level of 9 ft-lbs, and ¾" fittings bearing NPS threads must be tightened to a torque level of 3 ft-lbs.

**PLASTIC NON-REMOVABLE HEAD DRUMS**

Inspect each closure to ensure that the closure has the proper gasket and that both closure and gasket are in good condition. Inspect the sealing surface for damage and make sure the threads and sealing surfaces are dry. Replace any defective gaskets, plugs or lids with new, defect-free parts identical to those in the design qualification.

**CLOSING PROCEDURES FOR PLUGS AND CAPS**

1. The plug or cap is inserted into the appropriate opening and screwed down "hand tight" until the gasket is in contact with the sealing surface.
2. A torque wrench capable of applying the proper torque to the fitting as specified by the closing instructions following is then used to tighten the plug or cap until it reaches the pre-set torque as indicated by a release or click. Torque Requirement: 2" NPT or Buttress plugs with Buna or EPDM Gasket : 20 – 25 ft-lbs.

**IBC TOTES**

Fill port cap and valve must be torqued to the following: 6" and 9" Fill Port Cap : 75 ft-lbs.  
 2" Plug in 6" or 9" Fill port cap must be torqued to 15 ft-lbs (ICS-Cargo Clean-CA, LLC does not recommend that you remove this plug. Filling should be done through the 6" or 9" opening).  
 56 x 4 mm plug : 20 ft-lbs  
**Old Style Valve** : Valve Nut : 55 ft-lbs  
 Note: Caps, valves, and plugs must have gaskets to seal.  
**New Style valves** – two turns and line up the hole in the valve body and the hole in the bottle insert and insert clip.

JTE: After filling and prior to transport, the shipper should check and tightness of closures to determine if the effects of heating, cooling or gasket relaxation have resulted in the need to tighten the closure.



## CLOSURE NOTIFICATION ADVICE STEEL DRUMS

(INCLUDING BUT NOT LIMITED TO 16-, 30-, AND 55-GAL DRUM SIZES)

Pursuant to the requirements of the U.S. Department of Transportation at 49 CFR 178.2(c)(1), we hereby provide this *Notification* of the closing method used for the containers sold to you under our *Quotation*. This method of closure should be used to ensure that your containers have been closed in the same manner as when they were initially tested. Under the applicable DOT regulations, any changes made to (a) the type, materials or dimensions of closures or (b) the method of closure **may constitute a change to the design type of these containers, voiding the UN certification we have marked on them.** If there are any questions regarding proper closing methods, please contact your Account Manager or Customer Service representative. **Industrial Container Services highly recommends a copy of this *Notification* be kept on file and posted in a conspicuous location at your facility.**

<b>TO CLOSE FITTINGS IN HEADS OR COVERS:</b>					
<ol style="list-style-type: none"> <li>1. Use only the plugs and gaskets we have supplied with the drums.</li> <li>2. Insert and tighten all plugs into their appropriate threaded flanges until snug.</li> <li>3. Using a torque wrench, tighten each fitting to the correct torque. See below for correct torques. Torques are based on the closure manufacturers' recommendations.</li> </ol>					
<b>REQUIRED TORQUE</b>					
SIZE & FITTING STYLE	STEEL PLUGS			NYLON OR POLY PLUGS	
	Buna Rubber Gasket	Poly Gasket	EPT Gasket	Buna Rubber Gasket	Poly Gasket
2" Rieke Type	30 ft. lbs.	40 ft. lbs.	N/A	20 ft. lbs.	20 ft. lbs.
1 ½ Rieke Type	30 ft. lbs.	40 ft. lbs.	30 ft. lbs	N/A	N/A
¾" Rieke Type	15 ft. lbs.	20 ft. lbs.	N/A	9 ft. lbs.	9 ft. lbs.
2" Trisure Type	20 ft. lbs.	30 ft. lbs.	N/A	20 ft. lbs.	30 ft. lbs.
¾" Trisure Type	12 ft. lbs.	15 ft. lbs.	N/A	8 ft. lbs.	8 ft. lbs.
2" Leak Lock Type	25 ft. lbs.	N/A	N/A	N/A	N/A
¾" Leak Lock Type	20 ft. lbs.	N/A	N/A	N/A	N/A
Drums closed in this manner meet the UN performance oriented packaging standards test requirements for the container markings shown on our <i>Quotation</i> . It is the responsibility of the shipper to ensure that the container is closed according to these instructions prior to shipment per 49 CFR 173.22(a)(4).					



## CLOSURE NOTIFICATION ADVICE STEEL DRUMS

### TO CLOSE OPEN HEAD DRUMS:

#### A. FOR CUSTOMERS WHO ASSEMBLE THE COVER AND RING AFTER FILLING:

1. Place cover on drum, using only the cover gasket we have supplied and which is described in our *Quotation*.
2. Snap the closing ring over the cover and the bead of the drum. Make sure the ring's lugs point down, toward the floor. Also make sure that sufficient downward pressure is applied to the cover so that the bottom edge of the closing ring is fully engaged under the bottom edge of the drum bead.
3. If there are fittings in the cover, the  $\frac{3}{4}$ " bung should be oriented between 45 to 90 degrees from the ring lug. If no  $\frac{3}{4}$ " bung, orient the 2" bung 45 to 90 degrees from the ring lug.
4. Insert the bolt through the lug without threads. Then screw lock nut on bolt (if provided see section 6). Finally, screw the bolt into the threaded lug.
5. Tighten the bolt in the locking ring lugs to 60 ft-lbs. of torque. **While tightening the bolt, tap the entire perimeter of the locking ring with a mallet until there is no further loosening of the ring. Begin each tapping cycle 180° across the drum cover from the locking ring lugs; repeat several times.** Check to ensure that the ring is seated tightly against the bottom edge of the drum bead and cover and ring ends are not touching.
6. If jam nuts are provided, ensure nut spins freely between lugs during ring torqueing process. Finger tighten jam nut against threaded lug of ring (metal to metal); then wrench tighten the jam nut an additional 14 to 28 degrees. **Note:** If Fas lok bolts or shoulder bolts are provided (which manufacturers are using at an increased rate), they do not require a jam nut for proper closure.

#### B. FOR CUSTOMERS WHO PURCHASE DRUMS ASSEMBLED:

1. Ensure that the locking ring, bolt and nut have not been disturbed from the time of our delivery.
2. After filling, close the fitting in the cover used for filling, as described on the reverse.
3. Check the tightness of the bolt and nut, per A.5 & 6, above. (Some loosening of the ring is inevitable, over time, because of gasket compression.) Ensure that torque levels meet those shown above.

Drums closed in the above manner meet the UN performance-oriented packaging standards test requirements for the container markings shown on the attached *Quotation*. It is the responsibility of the shipper to ensure that the container is closed according to these instructions prior to shipment per 49 CFR 173.22(a)(4).

**Note:** Consideration should be given to the possible effects heating and cooling may have on containers resulting in the need to tighten the closure(s). Drum gaskets will compress and lose their memory over time affecting their ability to seal. It is recommended that you limit to a minimum the time assembled gaskets are kept under full compression.

Under DOT regulations, any changes made to the type and dimensions of closures or the method of closure may constitute a change in design type of this packaging, voiding the certification we have marked on it and requiring retesting and recertification.