



Cleveland Steel Container



UN Closing Instruction Manual

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PROPRIETARY CORPORATE INFORMATION



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Cleveland Steel Container Corporation

30310 Emerald Valley Parkway #400 Glenwillow, OH 44139

June 12, 2018

To Our Customers and Distributors:

Cleveland Steel Container Corporation is required by 49 CFR (Code of Federal Regulations, Title 49--Transportation) to **notify** all of our customers and distributors using Cleveland Steel Container's UN Packaging that they must comply with our UN Closing Instructions.

The actual terminology in 49 CFR, §178.2(c) Notification, clearly states that the manufacturer or other person certifying compliance with the requirements of Part 178, and each subsequent distributor of that packaging shall:

- (1) Notify in writing each person to whom that packaging is transferred--
 - (i) of all requirements in Part 178 not met at the time of transfer, and
 - (ii) of the type and dimensions of any closures, including gaskets, needed to satisfy performance test requirements
- (2) Retain copies of each written notification for at least one year from date of issuance; and
- (3) Make copies of all written notifications available for inspection by a representative of the Department

In the attached accompanying manual, you will find the newly revised complete set of Cleveland Steel Container Corporation's UN Closing Instructions. In addition, we have included a matrix that will help you choose which UN Closing Instructions are required based on the type of UN packaging that you purchase.

In addition, these closing instructions are to be made available to the actual personnel who will be filling, sealing, and preparing the packaging for shipment.

Also included in the manual is an acknowledgement form that must be signed in accordance with 49 CFR, §178.2(c) Notification. We ask that an authorized representative of your company sign and date the form, fax a signed copy of it to Sue Bush at 440-349-8101, e-mail it to sbush@cscpails.com or mail it to the above address.

To fulfill the requirement of compliance with 49 CFR, §178.2(c) Notification, Cleveland Steel Container will retain a copy of the signed acknowledgement form on file at our Corporate Office, such that it can be made available for inspection by a representative of the Department of Transportation. If you have any questions please feel free to contact your Regional Sales Manager.

Sincerely yours,

Michael S. Doran
UN Program Manager



Cleveland Steel Container Corporation

30310 Emerald Valley Parkway #400 Glenwillow, OH 44139

Receipt of UN Closing Instructions Acknowledgement Form

I, _____, acknowledge that I have received, read, printed and distributed
(Please Print Name)

to the appropriate Hazmat personnel responsible for UN Compliance,

CLEVELAND STEEL CONTAINER CORPORATION'S UN CLOSING INSTRUCTION MANUAL

in accordance with 49 CFR, §178.2(c) Notification.

I understand that the material in this manual is subject to change and/or revision.

Company Name

Authorized Representative Signature

Date

Please fax a signed copy of this form to Sue Bush at 440-349-8101, e-mail it to SBush@CSCPails.com
or mail it to the above address.

The UN Closing Instruction Manual includes detailed closing instructions for properly closing UN regulated containers manufactured by Cleveland Steel Container. An acknowledgement form indicating the receipt of these instructions is included. If you are using our closing instructions, please take the time to complete this form and fax a signed copy of it to our corporate office at 440-349-8101, or e-mail it to SBush@CSCPails.com

The Closing Instruction Manual contains two closing instruction matrices that will help you determine which closing instruction is required based on the type of container you are using. Simply click anywhere on the title page to display the Table of Contents, then click on the appropriate closing instruction matrix heading--open head or tighthead. The matrix of choice will be displayed from which you can choose the correct closing instruction. Click on any CSC logo to return to the Table of Contents.

You will need Adobe Reader to view these files. If your PC does not have this reader, click the button on the bottom of the page to install it.



UN Closing Instruction Matrix--Open Head Pails

Date: 4/25/13 Rev: 2 Page: 1 of 1

		UN CLOSING INSTRUCTION NUMBER																
Cover	Fitting	QA-FM-L250	QA-FM-L251	QA-FM-L252	QA-FM-L253	QA-FM-L254	QA-FM-L255	QA-FM-L256	QA-FM-L257	QA-FM-L258	QA-FM-L266	QA-FM-L267	QA-FM-L270	QA-FM-L271	QA-FM-L272	QA-FM-L273	QA-FM-L274	QA-FM-L275
UN Hiperform Cover	None		X															
	Rieke® Flexspout®		X		X													
	Tri-Sure® Uni-Grip® 60S Spout		X			X												
	Rieke® Drum Fitting		X				X											
	Tri-Sure® Drum Fitting		X					X										
	Metal Screw Cap		X	X														
	Stolz HZ60 Screw Cap		X														X	
	Delpak HDPE Liner		X										X					
UN Liner Cover	CDF HDPE Cradle	X	X															
	CDF HDPE Liner		X													X		
	CDF HDPE Tray		X									X						
	CDF HDPE Tray w/ Scholle Bag		X								X							
UN RingSeal Cover w/ Bolt Ring	Bolt Ring w/ Delpak HDPE Liner														X			
	Rieke® Flexspout®				X					X								
	Tri-Sure® Uni-Grip® 60S Spout					X				X								
	Metal Screw Cap			X						X								
	Rieke® Drum Fitting						X			X								
	Tri-Sure® Drum Fitting							X		X								
	Bolt Ring									X								
UN RingSeal Cover w/ LeverLock Ring	Rieke® LeverLock Rings								X									
	OFFKO LeverLock Ring																	X
	LeverLock Ring w/ Delpak HDPE Liner								X					X				
	Rieke® Flexspout®				X				X									
	Tri-Sure® Uni-Grip® 60S Spout					X			X									
	Rieke® Drum Fitting						X		X									
	Tri-Sure® Drum Fitting							X	X									
	Metal Screw Cap			X					X									

Note: To locate the proper closing instruction, select the cover and fitting, then move right across the row to the **X**; move up the column and read the closing instruction number; be sure to move across the entire row as some pails have more than one applicable instruction sheet



UN Closing Instruction Matrix--Tighthead Pails

Date: 9/5/12 Rev: 0 Page: 1 of 1

		UN CLOSING INSTRUCTION NUMBER																
Cover	Fitting	QA-FM-L250	QA-FM-L251	QA-FM-L252	QA-FM-L253	QA-FM-L254	QA-FM-L255	QA-FM-L256	QA-FM-L257	QA-FM-L258	QA-FM-L266	QA-FM-L267	QA-FM-L270	QA-FM-L271	QA-FM-L272	QA-FM-L273	QA-FM-L274	QA-FM-L275
Tighthead Top	Rieke® Flexspout®				X													
	Tri-Sure UNi-GRIP® Spout					X												
	Rieke® Drum Fitting						X											
	Tri-Sure® Drum Fitting							X										
	Metal Screw Cap			X														
	Rieke® Flexspout® & Metal Screw Cap			X	X													
	Tri-Sure UNi-GRIP® Spout & Metal Screw Cap			X		X												
	Rieke® Drum Fitting & Metal Screw Cap			X			X											
	Tri-Sure® Drum Fitting & Metal Screw Cap			X				X										

Note: To locate the proper closing instruction, select the fitting, then move right across the row to the **X**; move up the column and read the closing instruction number; be sure to move across the entire row as some pails have more than one applicable instruction sheet



UNi-Pak Cradle Closing Instructions

Document: QA-FM-L250 Date: 8/29/12 Rev: 6 Page: 1 of 3

UNi-Pak Cradle Closing Instructions (UN Lug Cover)

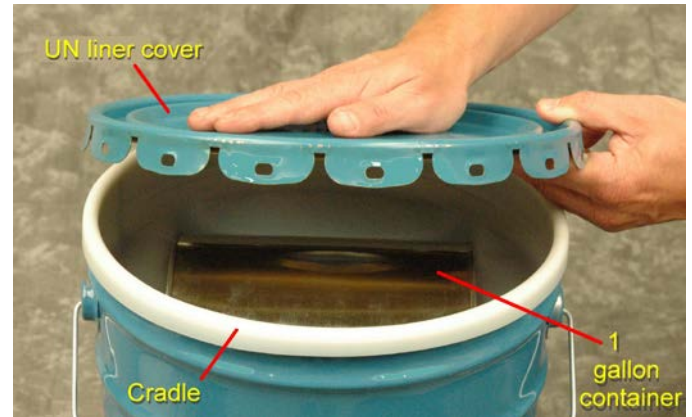
Step 1--Position the cradle into the filled pail. The gasket is already installed in the cradle



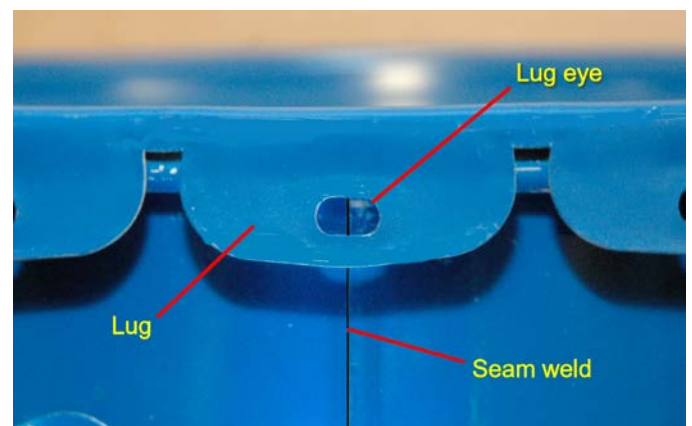
Step 2--Place the 1 gallon container, horizontally, into the cradle.



Step 3--Place the UN liner cover on the pail. Ensure that it is evenly seated around the curl of the pail.



The eye of one of the lugs should be centered directly over the seam weld of the pail.

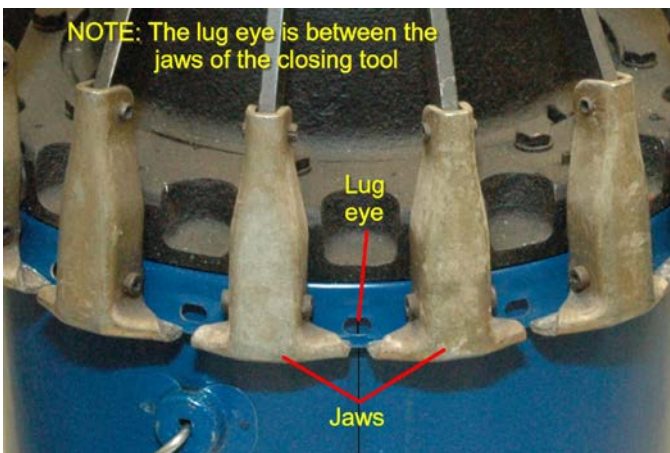
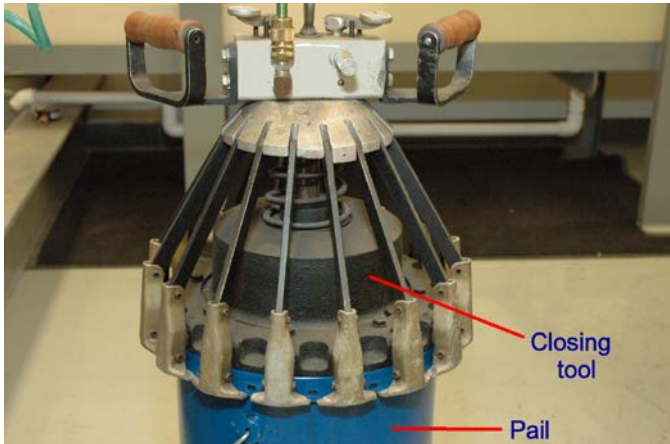




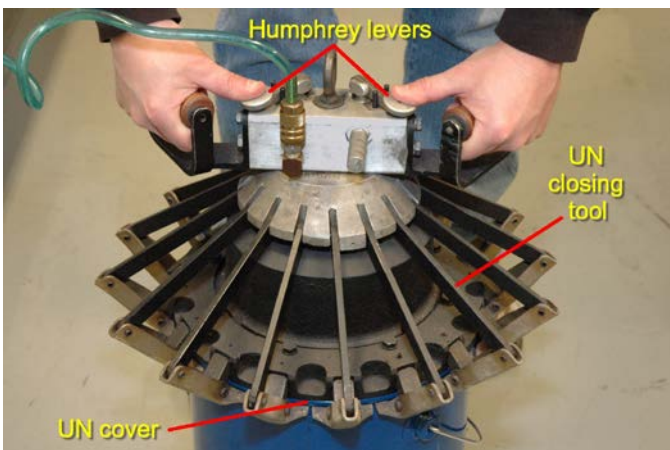
UNi-Pak Cradle Closing Instructions

Document: QA-FM-L250 Date: 8/29/12 Rev: 6 Page: 2 of 3

Step 4--Lower the closing tool onto the cover. Rotate the tool in order to position the lug eyes between the jaws of the closing tool.



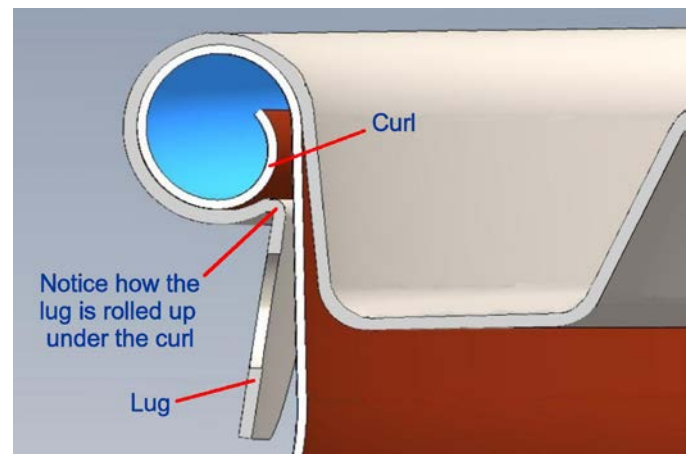
Step 5--To close the pail with the *pneumatic closing tool*, push the Humphrey levers on the top of the closing tool



When the downward motion of the tool stops, release the levers.

Note: The use of pneumatic and manual closing tools is detailed in this closing instruction; however, many packaging facilities use automated closing tools; regardless of the closing tool used, the quality of the closure is critical

Step 6--Check the integrity of the close to be sure that the cover is properly crimped. The cover lugs should be rolled up under the curl as shown in the drawing below.



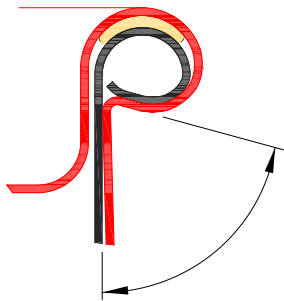
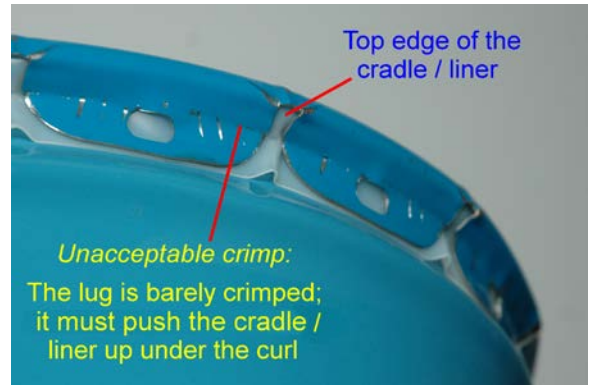
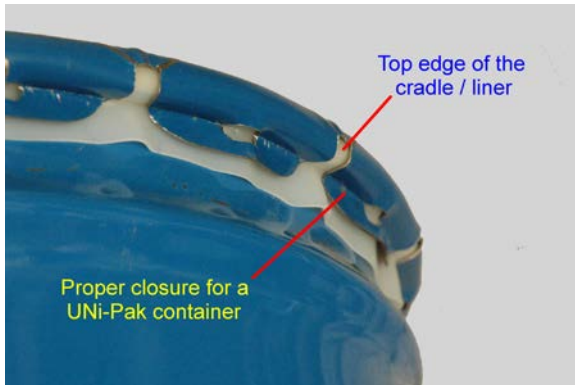
Step 7--Remove the closing tool. The lugs should be crimped under the curl of the pail at least 90° from the starting position

Review the photographs and drawings on the next page that illustrate the *preferred* crimp and the *unacceptable* crimp.

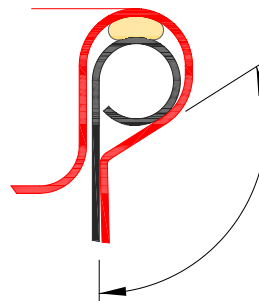


UNi-Pak Cradle Closing Instructions

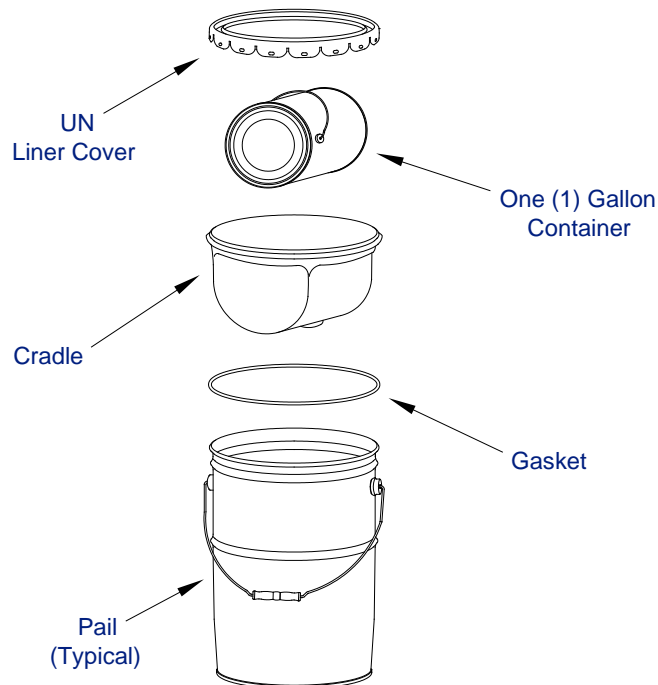
Document: QA-FM-L250 Date: 8/29/12 Rev: 6 Page: 3 of 3



Preferred Crimp



Unacceptable Crimp





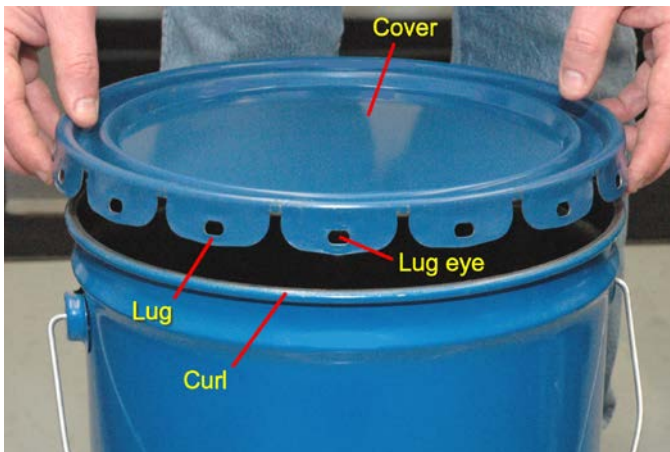
Open Head Closing Instructions

Document: QA-FM-L251 Date: 8/23/12 Rev: 6 Page: 1 of 3

Open Head Pail Closing Instructions

Step 1--Determine that the pail/cover combination is the correct specification for the material being filled.

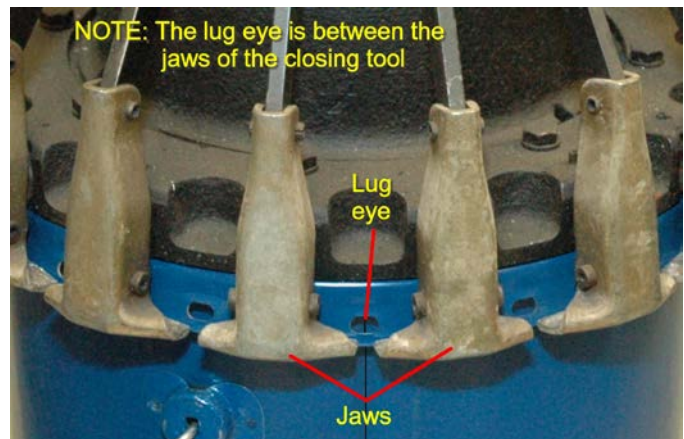
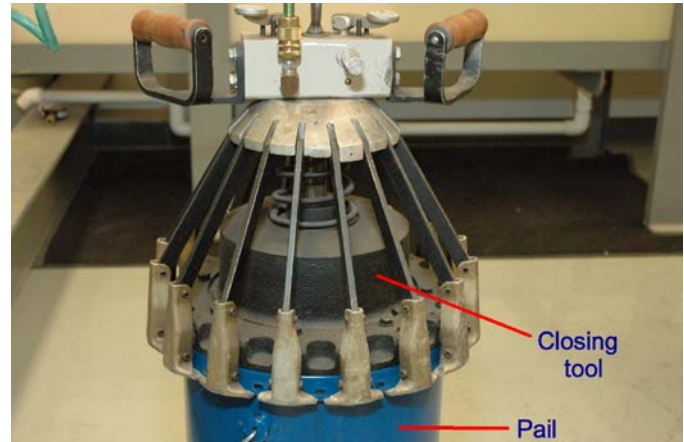
Step 2--Place the cover on pail. Ensure that it is evenly seated around the curl of the pail.



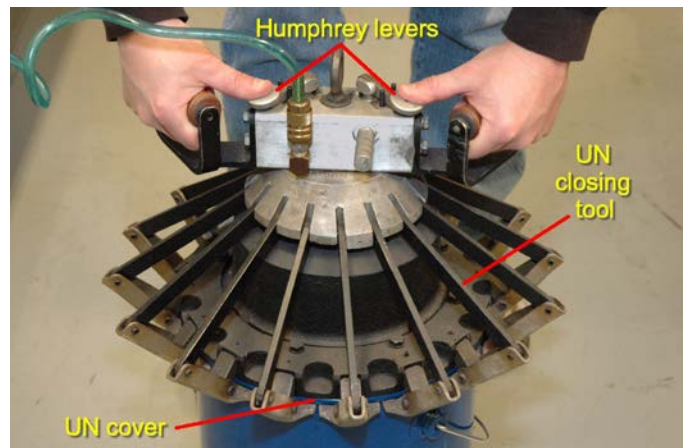
The eye of one of the lugs should be centered directly over the seam weld of the pail.



Step 3--Lower the closing tool onto the cover. Rotate the tool in order to position the lug eyes between the jaws of the closing tool.



Step 4a--To close the pail with the *pneumatic closing tool*, push the Humphrey levers on the top of the closing tool



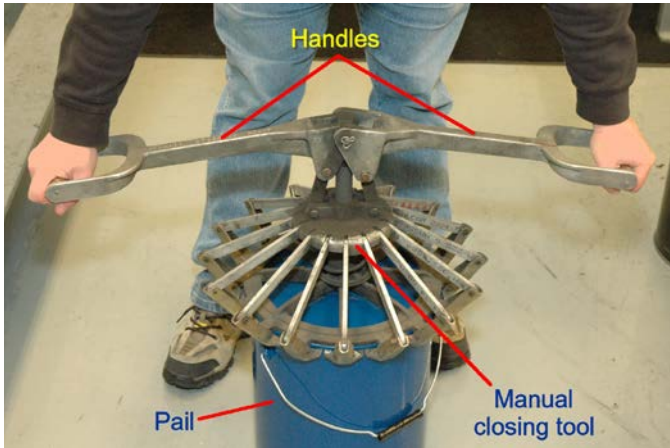
When the downward motion of the tool stops, release the levers.



Open Head Closing Instructions

Document: QA-FM-L251 Date: 8/23/12 Rev: 6 Page: 2 of 3

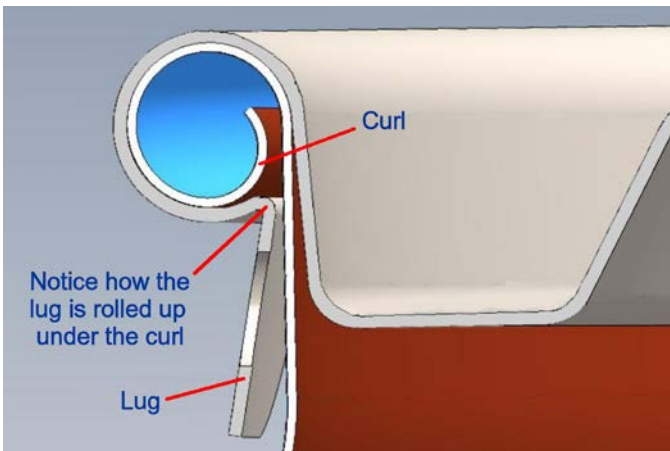
Step 4b--To close the pail with the *manual closing tool*, push the handles down and out until the downward motion stops



When the downward motion of the tool stops, release the handles.

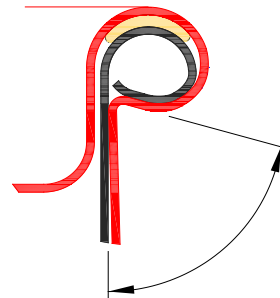
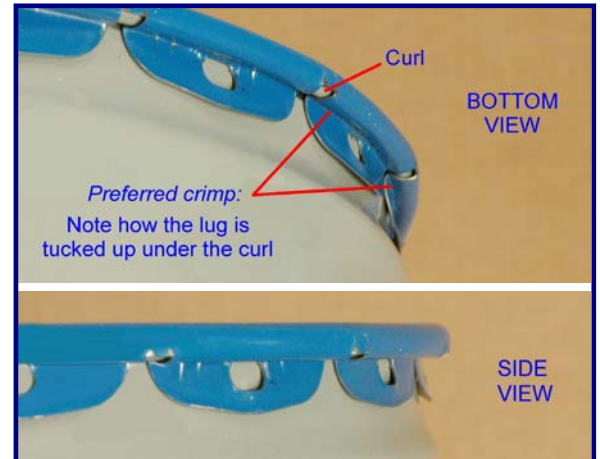
Note: The use of pneumatic and manual closing tools is detailed in this closing instruction; however, many packaging facilities use automated closing tools; regardless of the closing tool used, the quality of the closure is critical

Step 5--Check the integrity of the close to be sure that the cover is properly crimped. Ideally, the cover lugs should be rolled up under the curl as shown in the drawing below.



Step 6--Remove the closing tool. The lugs should be crimped under the curl of the pail at least 90° from the starting position

Review the following photographs and drawings that illustrate the *preferred* crimp, the *acceptable* crimp and the *unacceptable* crimp.

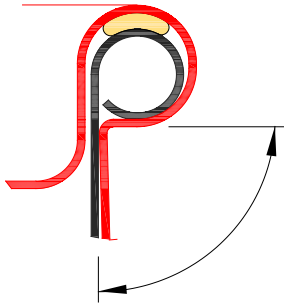
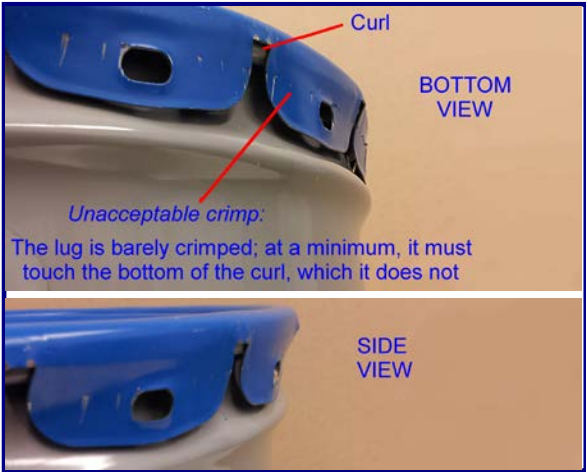
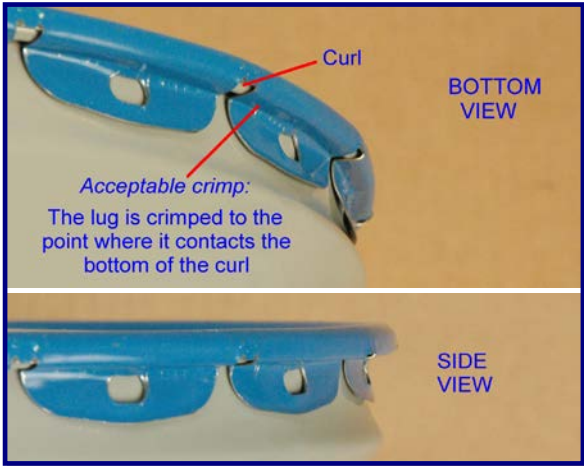


Preferred Crimp

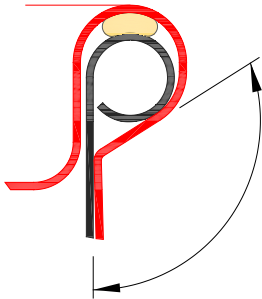


Open Head Closing Instructions

Document: QA-FM-L251 Date: 8/23/12 Rev: 6 Page: 3 of 3



*Acceptable
Crimp*



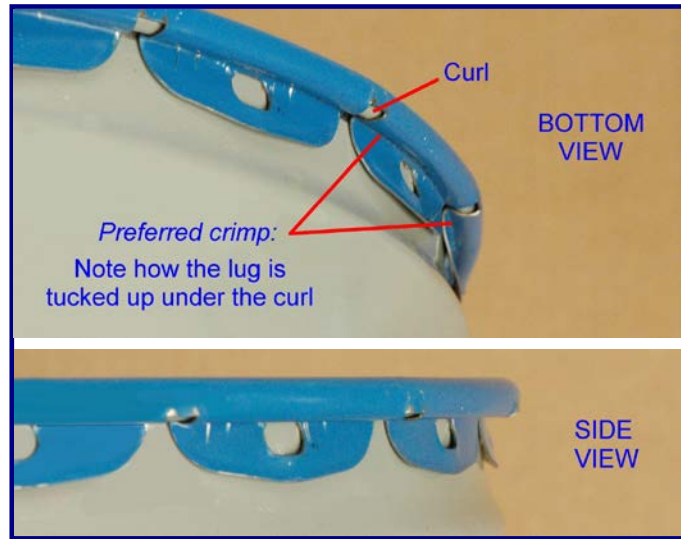
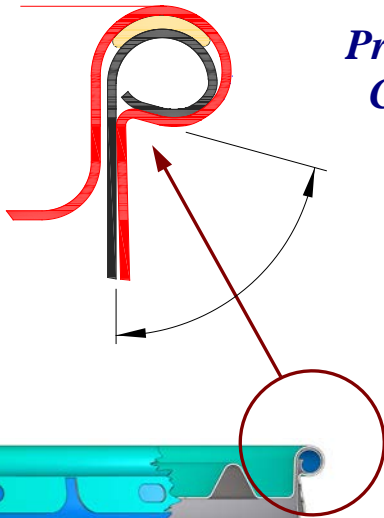
*Unacceptable
Crimp*



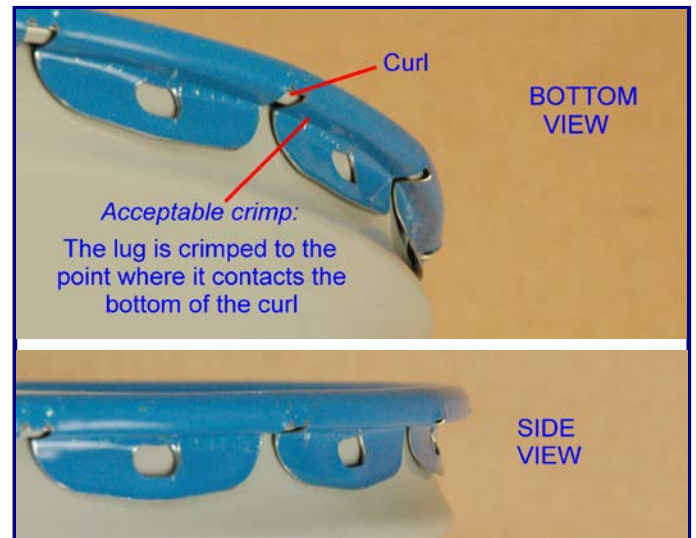
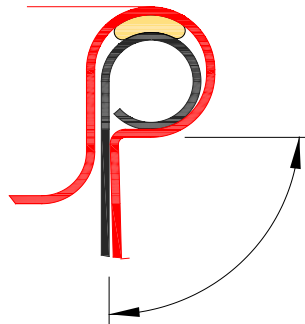
UN Closing Instructions--Proper Pail Crimping

Document: QA-FM-L249 Date: 2/5/13 Rev: 0 Page: 1 of 1

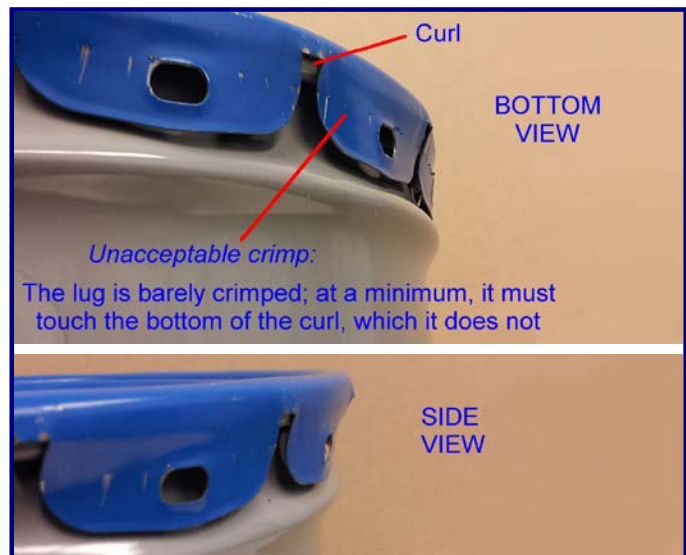
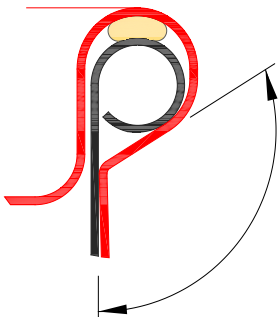
Preferred Crimp



Acceptable Crimp



Unacceptable Crimp





Metal Screw Cap Closing Instructions

Document: QA-FM-L252 Date: 8/29/12 Rev: 5 Page: 1 of 2

Metal Screw Cap Closing Instructions

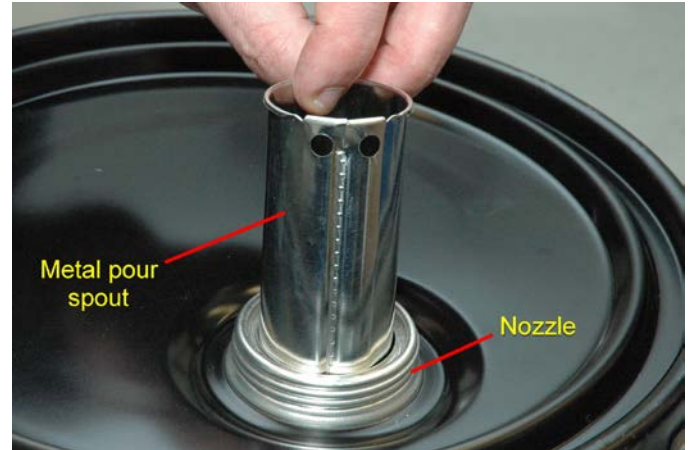
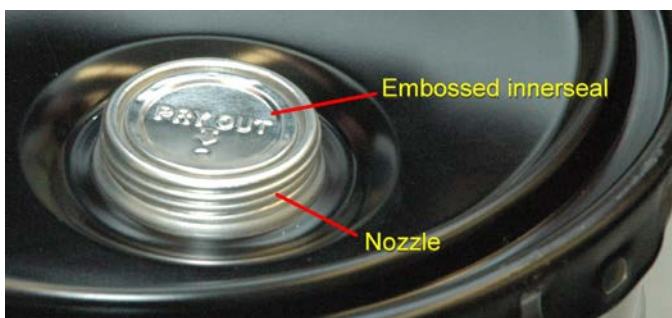
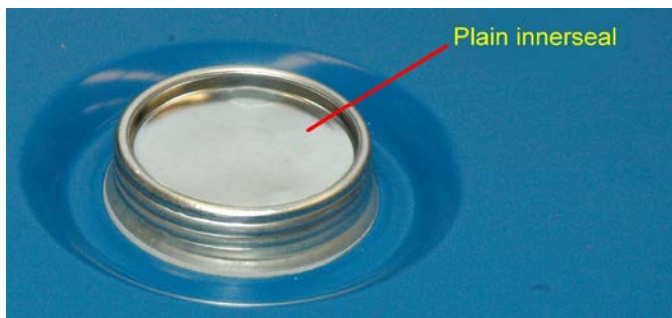
Step 1--Hold the pail securely on a flat surface.

Step 2-- Place the innerseal over the opening in the nozzle. Apply pressure to the innerseal to ensure that it locks completely into the nozzle opening.

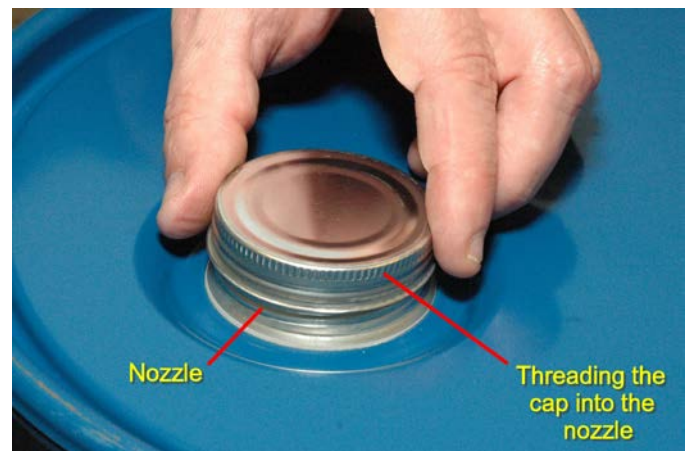


Note: Use caution in order to prevent distortion to the innerseal while applying pressure

Note: There are 2 styles of innerseals, *plain* and *embossed*; both are installed in the same manner; the embossed style is designed to accommodate a metal pour spout and must be used with the nozzle



Step 3--Place the screw cap over the opening in the nozzle. Gently rotate the screw cap clockwise until the threads of the cap smoothly engage the threads in the nozzle.



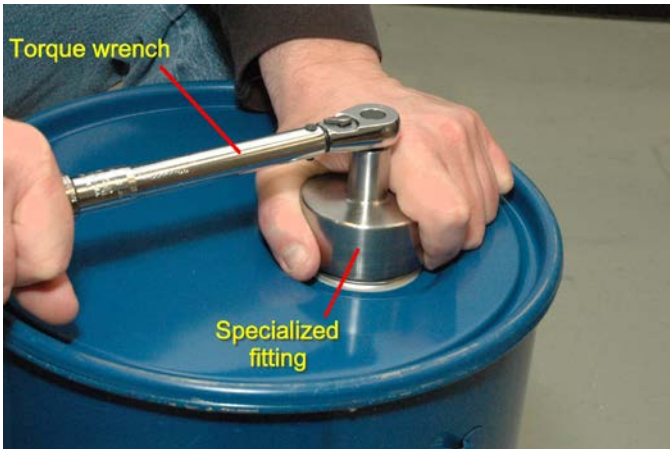
Step 4--Continue to rotate the screw cap clockwise until it cannot be tightened any further by hand. Using a torque wrench and specialized fitting for the particular cap screw being installed, tighten it to at least 80 inch-pounds.

Refer to the *Recommended Torque Specifications* chart for the torque specification required for the hydrostatic pressure rating marked on the pail.



Metal Screw Cap Closing Instructions

Document: QA-FM-L252 Date: 8/29/12 Rev: 5 Page: 2 of 2



Automatic Application

Step 1--Set the capping machine torque adjustment to the required specification for the product being packaged in the pail. As a guide, tighten the cap screw to at least 80 inch-pounds.

Refer to the *Recommended Torque Specifications* chart for the torque specification required for the hydrostatic pressure rating marked on the pail.

Step 2--Be sure that the screw cap is not misaligned or mis-threaded. If it is, adjust the alignment of the screw cap and nozzle.

Recommended Torque Specifications for Screw Cap Fittings

Hydrostatic Pressure Rating	Torque
< 80 kPa	80 in-lbs
80 - 100 kPa	100 in-lbs



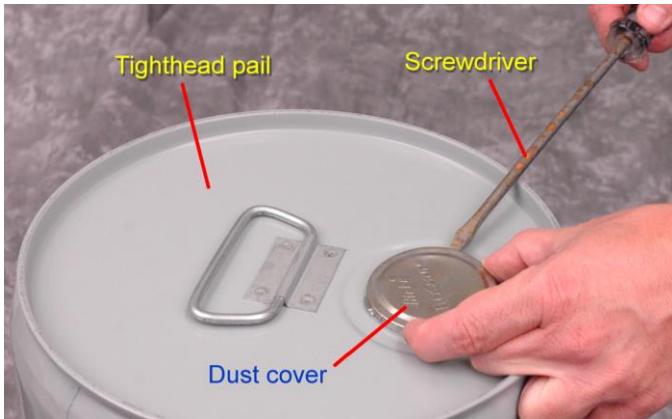
Rieke® FlexSpout Closing Instructions

Document: QA-FM-L253 Date: 6/3/18 Rev: 4 Page: 1 of 2

Rieke® FlexSpout Closing Instructions

Manual, Hand-Operated Crimping Tool

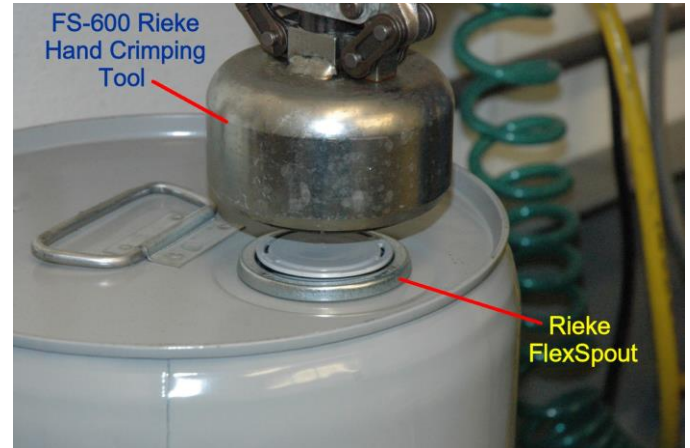
Step 1--Place the pail on a flat surface. Using a screwdriver, pry off the dust cover.



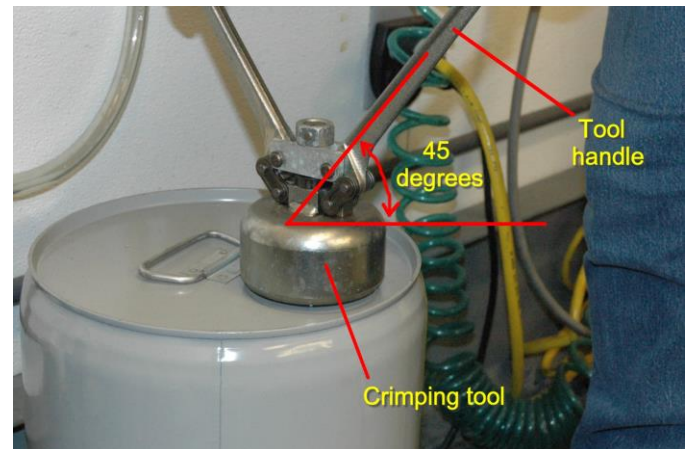
Step 2-- Place the Rieke® FlexSpout in the opening on the top of the pail.



Step 3--The FS-600 Rieke® Hand Crimping Tool is used to crimp the FlexSpout to the opening. Place the crimping tool evenly over the fitting on the pail.



Step 4--In the resting position, the handles of the crimping tool should be approximately 45° to the top of the pail.

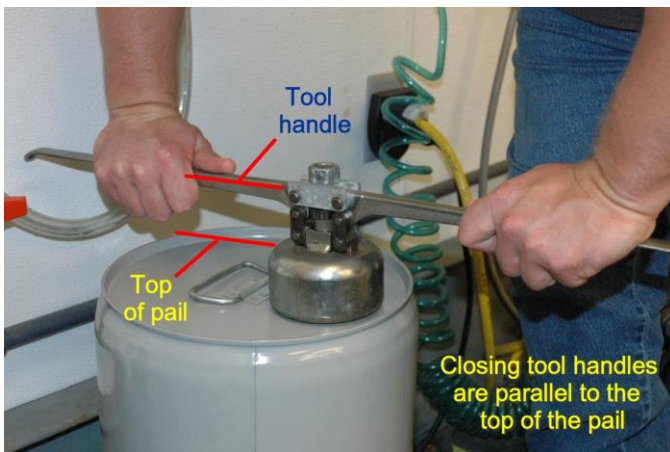


Step 5--Grip the handles of the crimping tool with your hands. Apply *even* downward pressure until the handles are parallel to the top of the pail in order to properly crimp the fitting.

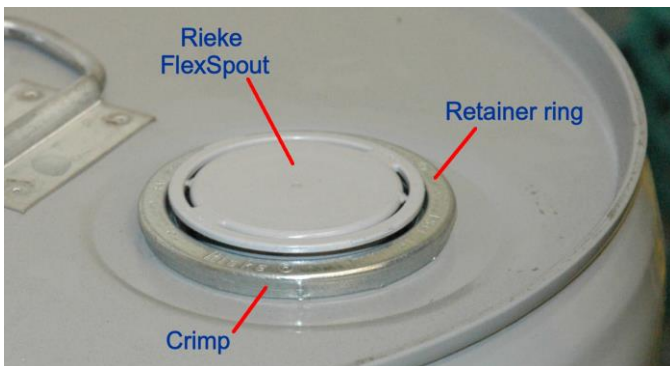


Rieke® FlexSpout Closing Instructions

Document: QA-FM-L253 Date: 6/3/18 Rev: 4 Page: 2 of 2



Step 6--Visually inspect the crimped FlexSpout. The crimp should be uniform and consistent around the entire circumference of the retainer ring of the fitting.

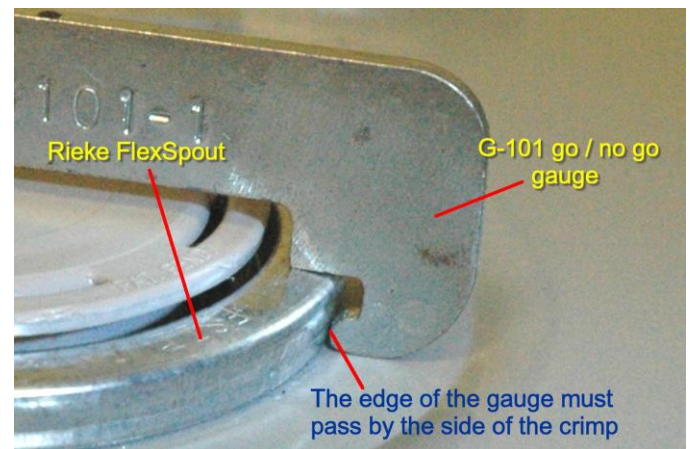
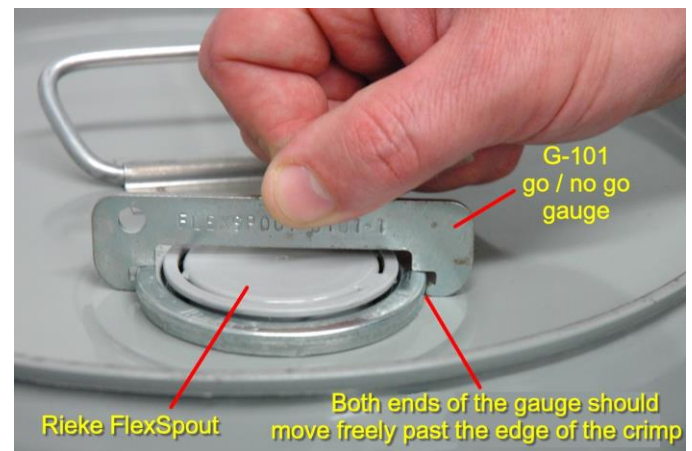


Note: It is important that the closing tool is resting *evenly* on the FlexSpout when applying the downward pressure; if the tool is *cocked* or *tilted* when crimping the fitting, an improper

seal can result which might cause leakage of the contents of the pail

Step 7--Check the crimp of the Rieke® FlexSpout fitting using the *G-101 go / no go gauge*. As the gauge is moved over the fitting, the edge must be able to pass by the side of crimp.

Note: Contact Rieke® Corporation, or your Cleveland Steel Container Regional Sales Manager, to obtain this gauge



Note:

The use of the hand crimping tool is detailed in this closing instruction; however, many packaging facilities use automated crimping tools which are also authorized. The critical part of this closing process is to ensure that the crimp meets the details outlined in Step 6 and Step 7.



Tri-Sure[®] Uni-Grip[®] 60S Spout Closing Instructions

Document: QA-FM-L254 Date: 4/17/13 Rev: 4 Page: 1 of 2

Tri-Sure[®] Uni-Grip[®] 60S Spout Closing Instructions

Manual Hand Tool

Step 1--Place the pail on a flat surface. Using a screwdriver, pry off the dust cover.

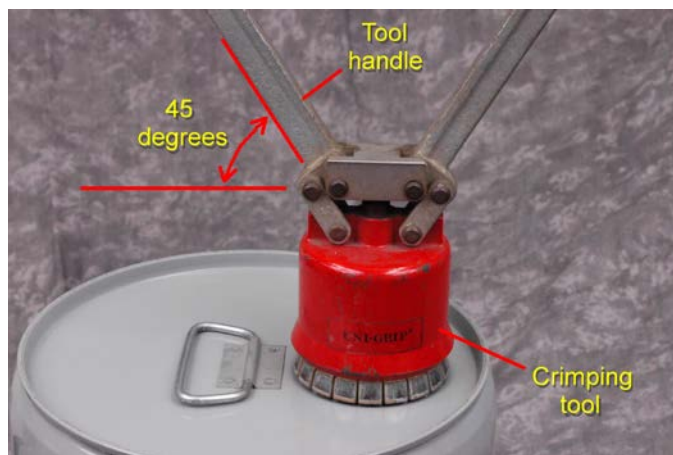


Step 2--Place the Uni-Grip[®] 60S Spout in the opening on the top of the pail.



Step 3--The Tri-Sure[®] Uni-Grip[®] 60S Spout Hand Crimping Tool is used to crimp the Uni-Grip[®] 60S Spout to the opening.

Place the Tri-Sure[®] Uni-Grip[®] 60S Spout Hand Crimping Tool evenly over the fitting at the top of the pail. In the resting position, the handles of the crimping tool should be approximately 45° to the top of the pail.



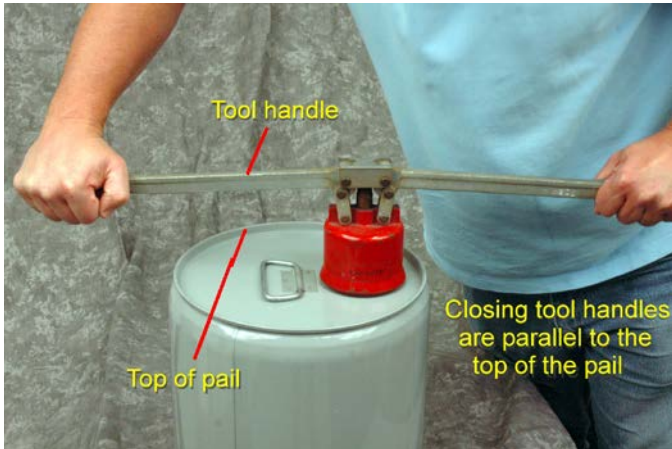
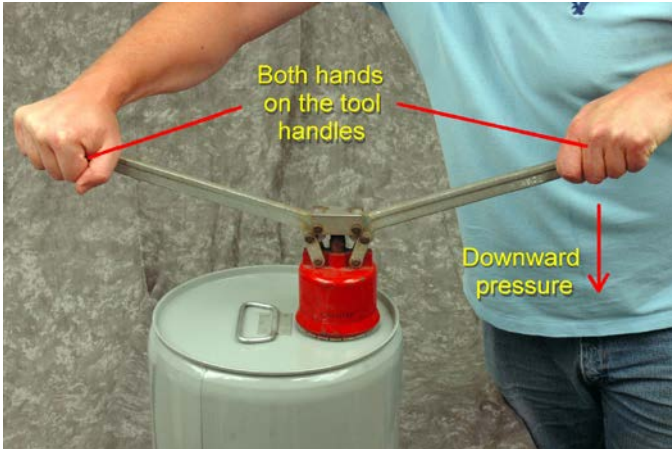
Step 4--Grip the handles of the crimping tool with your hands. Apply *even* downward pressure until the handles are parallel to the top of the pail in order to properly crimp the spout (refer to the two photographs in the left hand column on the next page)

Note: It is important that the closing tool is resting *evenly* on the Uni-Grip[®] 60S Spout when applying the downward pressure; if the tool is *cocked* or *tilted* when crimping the fitting, an improper seal can result which might cause leakage of the contents of the pail



Tri-Sure[®] Uni-Grip[®] 60S Spout Closing Instructions

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Note: The use of the hand crimping tool is detailed in this closing instruction; however, many packaging facilities use automated crimping tools; regardless of the crimping tool used, the quality of the crimp is critical



Rieke® Drum Fitting Closing Instructions

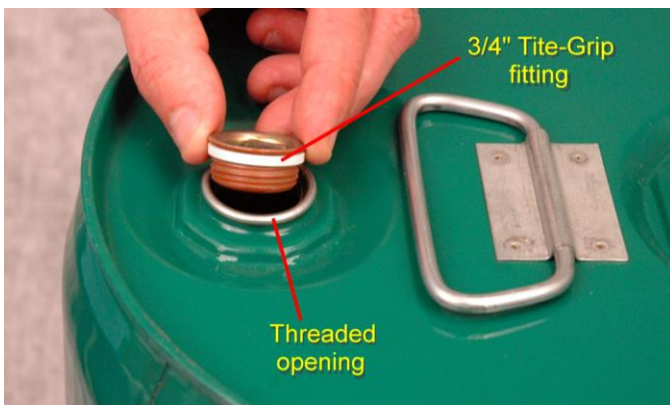
Document: QA-FM-L255 Date: 5/18/18 Rev: 9 Page: 1 of 5

Rieke® Tite-Grip and Vice-Grip Drum Fitting Closing Instructions

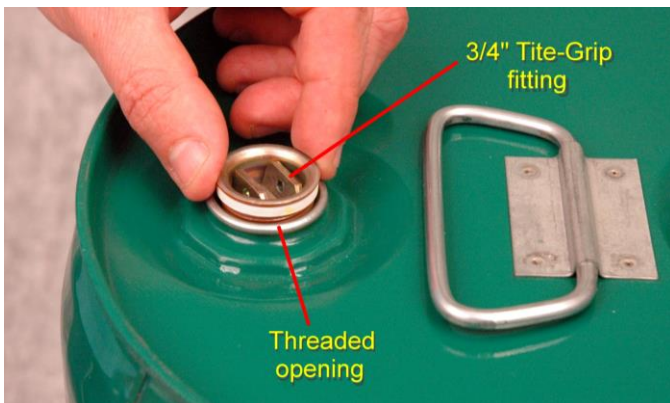
3/4" Rieke® Tite-Grip Fitting (Steel)

Step 1--Place the pail on a flat surface.

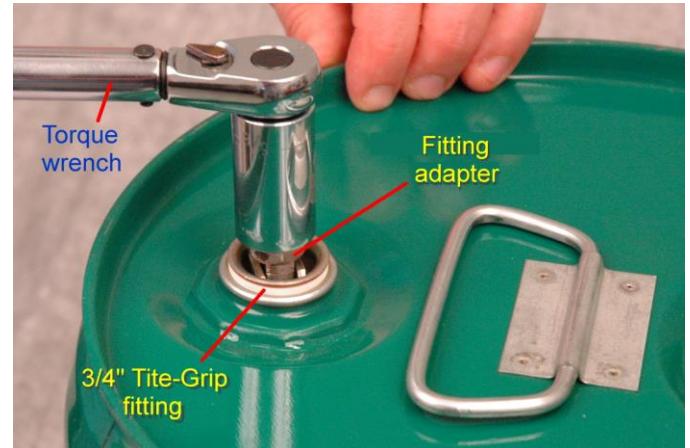
Step 2-- Place the fitting on the top of the pail in the threaded opening.



Step 3--Rotate the fitting clockwise to engage the threads in the opening.



Step 4--Thread the fitting into the opening and tighten it using a (1) custom-made fitting adapter for a torque wrench, or a (2) pre-set torque wrench from the manufacturer.



Step 5--Be sure the fitting is tightened to the proper specification (refer to the table on page 4).

2" Rieke® Tite-Grip Fitting (Steel)

Step 1--Place the pail on a flat surface.

Step 2-- Place the fitting on the top of the pail in the threaded opening.

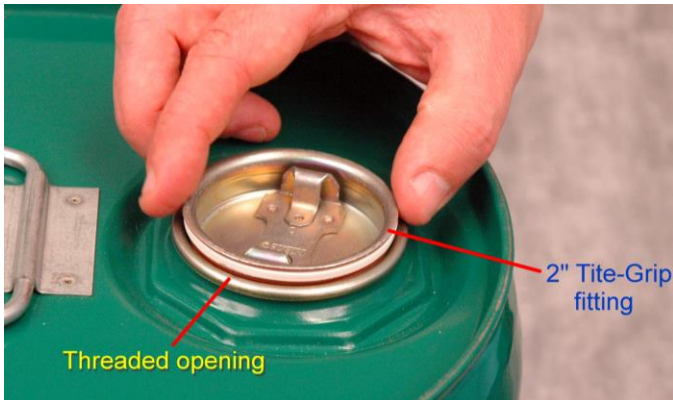


Step 3--Rotate the fitting clockwise to engage the threads in the opening.

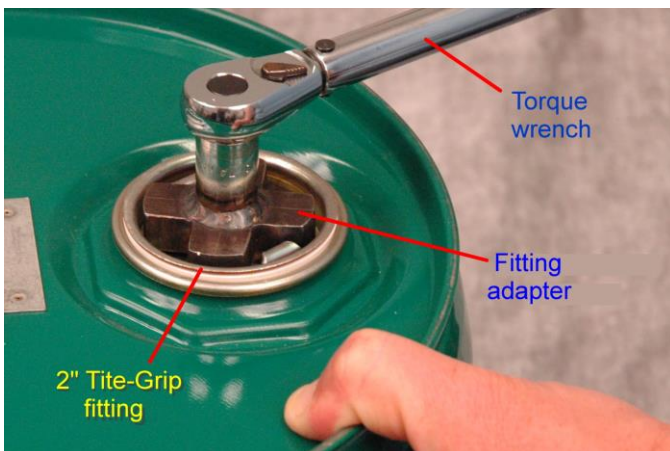


Rieke® Drum Fitting Closing Instructions

Document: QA-FM-L255 Date: 5/18/18 Rev: 9 Page: 2 of 5

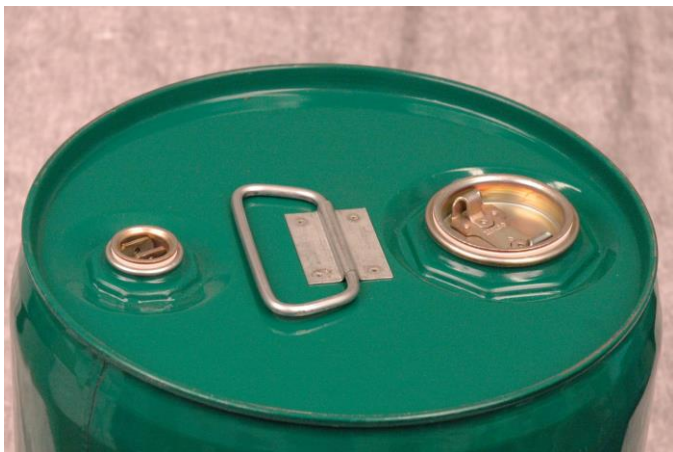


Step 4--Thread the fitting into the opening and tighten it using a custom-made fitting adapter for a torque wrench.



Step 5--Be sure the fitting is tightened to the proper specification (refer to the table on page 4).

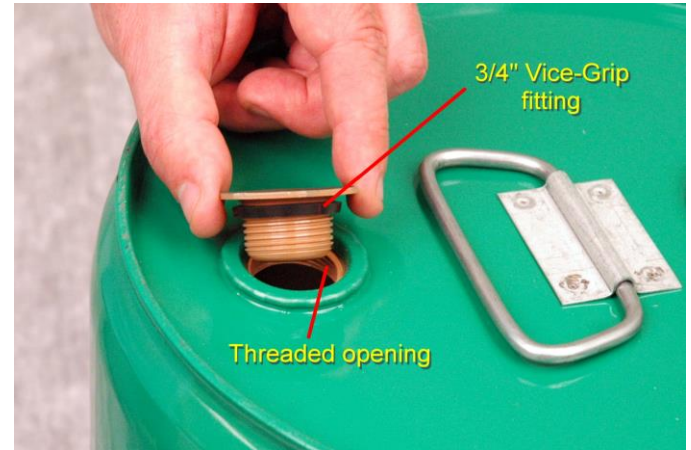
Note: The photograph below illustrates both fittings correctly installed in the pail cover



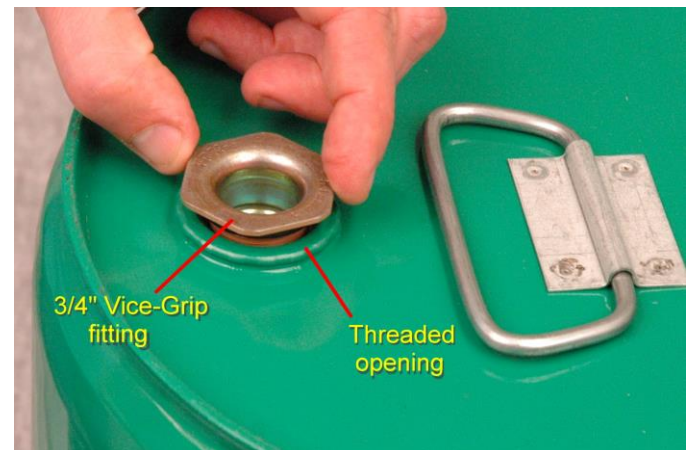
3/4" Rieke® Vice-Grip Fitting (Steel)

Step 1--Place the pail on a flat surface.

Step 2-- Place the fitting on the top of the pail in the threaded opening.



Step 3--Rotate the fitting clockwise to engage the threads in the opening.



Step 4--Thread the fitting into the opening and tighten it using a pre-set torque wrench from the manufacturer.

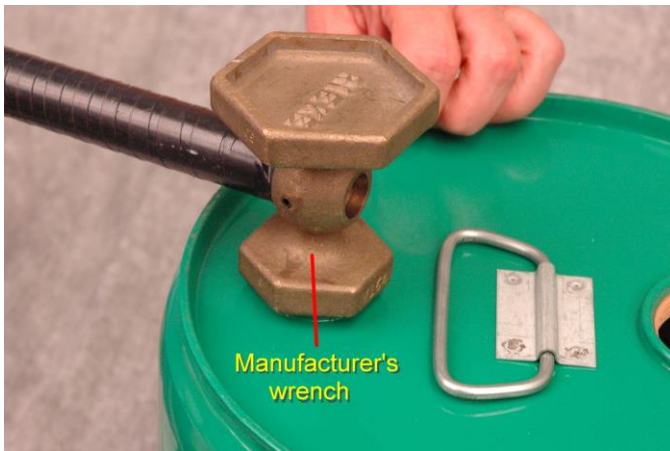
Note:

The use of a manual torque tool is detailed in this closing instruction; however, the use of automated pneumatic torque tightening tools is authorized provided the required torque specifications are achieved.



Rieke® Drum Fitting Closing Instructions

Document: QA-FM-L255 Date: 5/18/18 Rev: 9 Page: 3 of 5

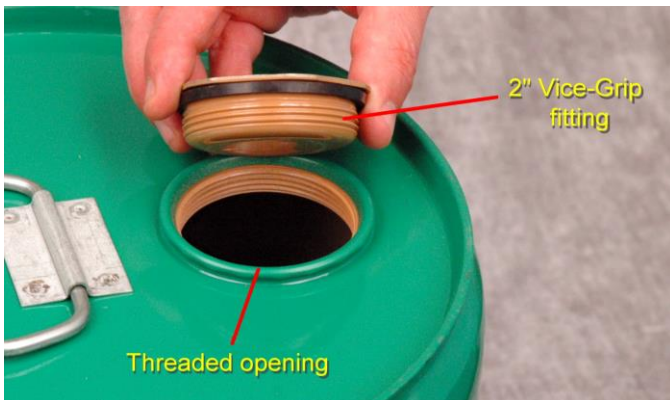


Step 5--Be sure the fitting is tightened to the proper specification (refer to the table on page 4).

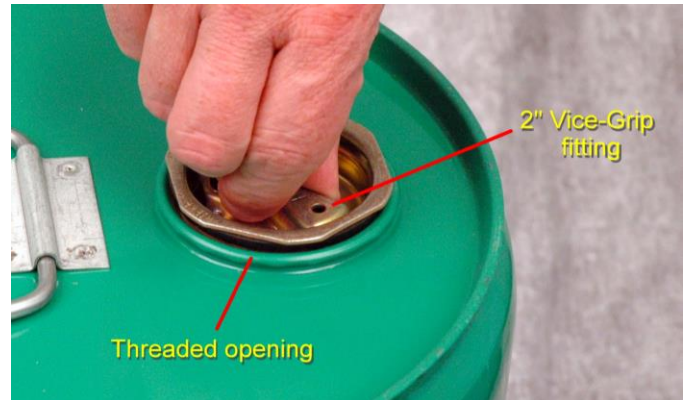
2" Rieke® Vice-Grip Fitting (Steel)

Step 1--Place the pail on a flat surface.

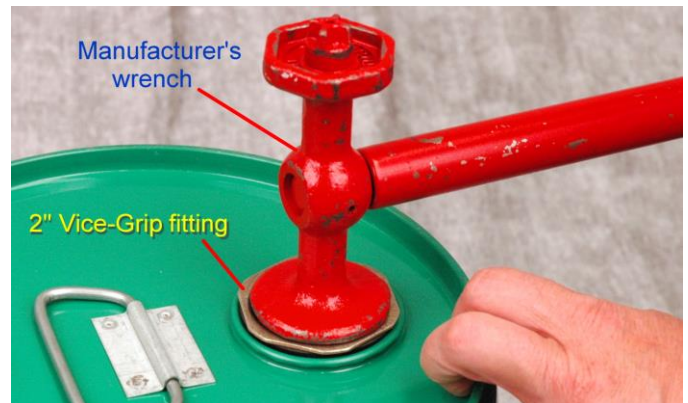
Step 2-- Place the fitting on the top of the pail in the threaded opening.



Step 3--Rotate the fitting clockwise to engage the threads in the opening.



Step 4--Thread the fitting into the opening and tighten it using a pre-set torque wrench from the manufacturer.



Step 5--Be sure the fitting is tightened to the proper specification (refer to the table on page 4).

Note: The photograph below illustrates both fittings correctly installed in the pail cover



**Rieke® Drum Fitting Closing Instructions**

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2" Tite-Grip Plugs

Gasket	Material	Plastic Plug	Nylon Plug	Steel Plug	Oven Temp
GT043	Buna	10 ft-lbs	20 ft-lbs	30 ft-lbs	450° F
GT043W	White Buna	10 ft-lbs	20 ft-lbs	30 ft-lbs	450° F
GT073-2	LD Polyethylene	10 ft-lbs	20 ft-lbs	40 ft-lbs	120° F
GT073-3	Irradiated LD Polyethylene	10 ft-lbs	20 ft-lbs	40 ft-lbs	375° F
GT083	Dapon	10 ft-lbs	20 ft-lbs	30 ft-lbs	450° F
GT093	EPT / EPDM	10 ft-lbs	20 ft-lbs	30 ft-lbs	450° F
GT093W	White EPT / EPDM	10 ft-lbs	20 ft-lbs	30 ft-lbs	450° F
GT099W	White EPT / EPDM	10 ft-lbs	20 ft-lbs	N/A	N/A
GT073-4	Teflon PTFE	10 ft-lbs	20 ft-lbs	30 ft-lbs	N/A

3/4" Tite-Grip Plugs

Gasket	Material	Plastic Plug	Nylon Plug	Steel Plug	Oven Temp
GT041	Buna	5 ft-lbs	9 ft-lbs	15 ft-lbs	450° F
GT041W	White Buna	5 ft-lbs	9 ft-lbs	15 ft-lbs	450° F
GT071-2	LD Polyethylene	5 ft-lbs	9 ft-lbs	20 ft-lbs	120° F
GT071-3	Irradiated LD Polyethylene	5 ft-lbs	9 ft-lbs	20 ft-lbs	375° F
GT081W	Dapon	5 ft-lbs	9 ft-lbs	15 ft-lbs	450° F
GT091	EPT / EPDM	5 ft-lbs	9 ft-lbs	15 ft-lbs	450° F
GT091W	White EPT / EPDM	5 ft-lbs	9 ft-lbs	15 ft-lbs	450° F
GT071-4	Teflon PTFE	5 ft-lbs	9 ft-lbs	15 ft-lbs	N/A

Gasket	Material	Plug Type	Torque	Oven Temp
G-91w	White EPT / EPDM	HDPE	4 ft-lbs	120° F

**Rieke® Drum Fitting Closing Instructions**

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2" Vice-Grip Plugs

Gasket	Material	Plastic Plug	Nylon Plug	Steel Plug	Oven Temp
GV043	Buna	20 ft-lbs	20 ft-lbs	30 ft-lbs	450° F
GV043W	White Buna	20 ft-lbs	20 ft-lbs	30 ft-lbs	450° F
GV073-2	LD Polyethylene	20 ft-lbs	20 ft-lbs	40 ft-lbs	120° F
GV073-3	Irradiated LD Polyethylene	20 ft-lbs	20 ft-lbs	40 ft-lbs	350° F
GV093	EPT / EPDM	20 ft-lbs	20 ft-lbs	30 ft-lbs	470° F
GV093W	White EPT / EPDM	20 ft-lbs	20 ft-lbs	30 ft-lbs	470° F

3/4" Vice-Grip Plugs

Gasket	Material	Plastic Plug	Nylon Plug	Steel Plug	Oven Temp
GV041	Buna	9 ft-lbs	9 ft-lbs	15 ft-lbs	450° F
GV041W	White Buna	9 ft-lbs	9 ft-lbs	15 ft-lbs	450° F
GV071-2	LD Polyethylene	9 ft-lbs	9 ft-lbs	20 ft-lbs	120° F
GV071-3	Irradiated LD Polyethylene	9 ft-lbs	9 ft-lbs	20 ft-lbs	350° F
GV091	EPT / EPDM	9 ft-lbs	9 ft-lbs	15 ft-lbs	470° F
GV091W	White EPT / EPDM	9 ft-lbs	9 ft-lbs	15 ft-lbs	470° F



Tri-Sure® Drum Fitting Closing Instructions

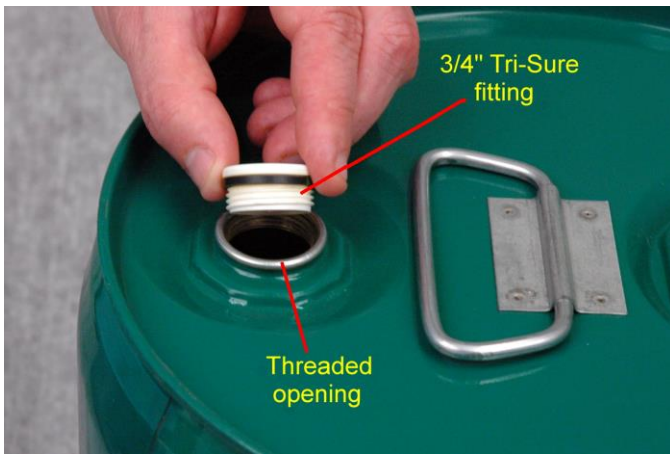
Document: QA-FM-L256 Date: 4/5/13 Rev: 7 Page: 1 of 3

Tri-Sure® Drum Fitting Closing Instructions

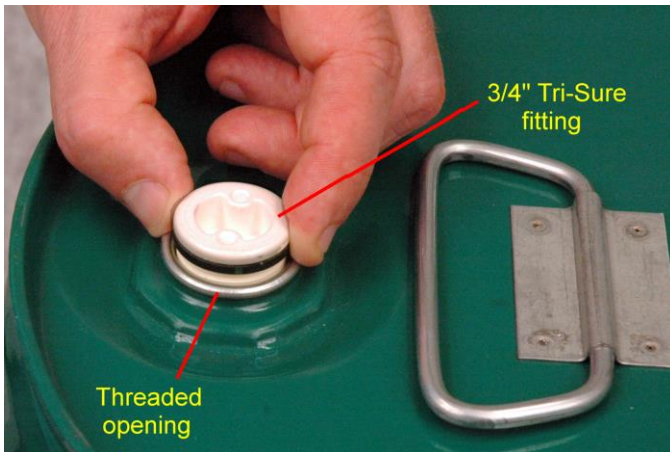
3/4" Tri-Sure® Fitting (Plastic)

Step 1--Place the pail on a flat surface.

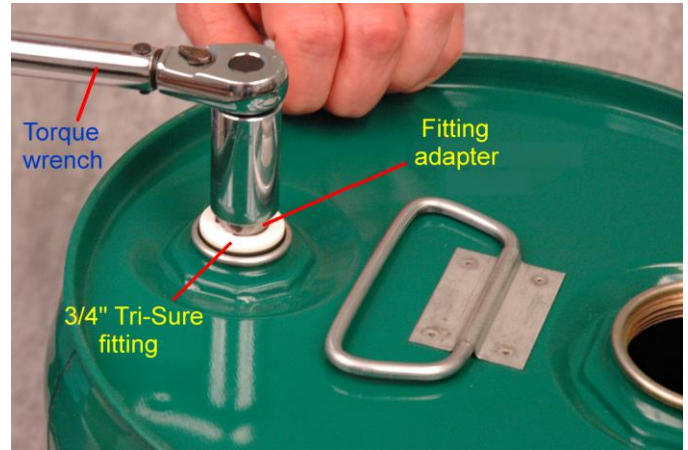
Step 2-- Place the fitting on the top of the pail in the threaded opening.



Step 3--Rotate the fitting clockwise to engage the threads in the opening.



Step 4--Thread the fitting into the opening and tighten it using a (1) custom-made fitting adapter for a torque wrench, or a (2) pre-set torque wrench from the manufacturer. An automated pneumatic torque wrench is also authorized.

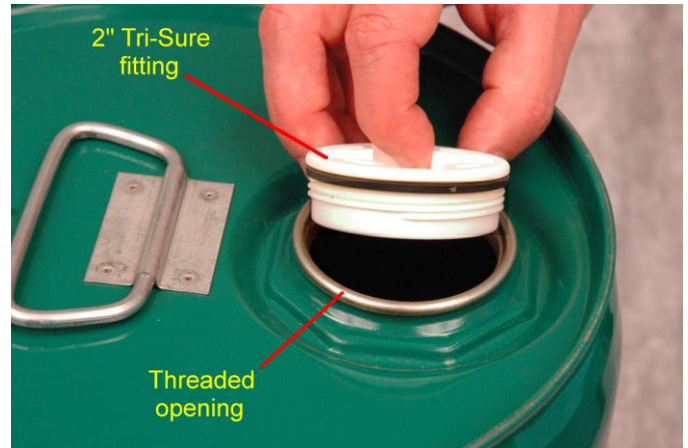


Step 5--Be sure the fitting is tightened to the proper specification (refer to the table on page 3).

2" Tri-Sure® Fitting (Plastic)

Step 1--Place the pail on a flat surface.

Step 2-- Place the fitting on the top of the pail in the threaded opening.

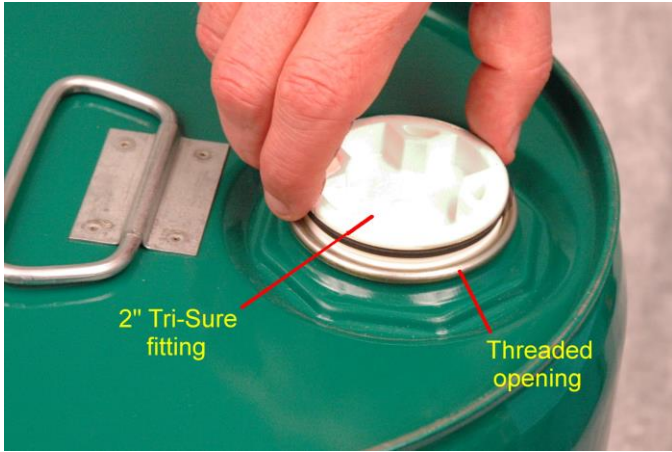


Step 3--Rotate the fitting clockwise to engage the threads in the opening.

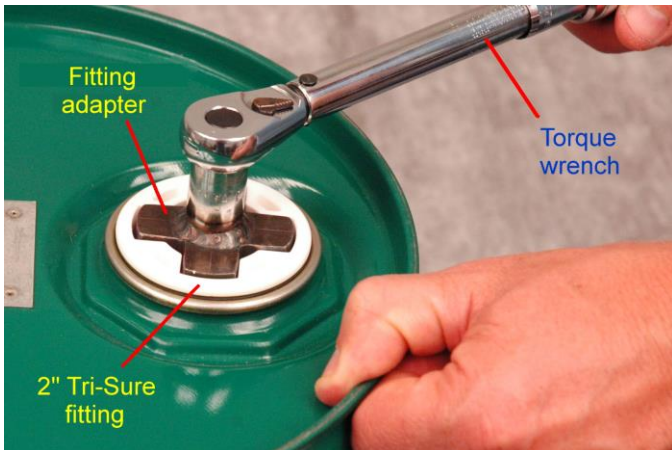


Tri-Sure® Drum Fitting Closing Instructions

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Step 4--Thread the fitting into the opening and tighten it using a (1) custom-made fitting adapter for a torque wrench, or a (2) pre-set torque wrench from the manufacturer.



Step 5--Be sure the fitting is tightened to the proper specification (refer to the table on page 2).

Note: The photograph below illustrates both fittings correctly installed in the pail cover



Note:

The use of a manual torque tool is detailed in this closing instruction; however, the use of automated pneumatic torque tightening tools is also authorized such that the required torque specifications are achieved.

**Tri-Sure® Drum Fitting Closing Instructions**

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2" Plugs

Material	Plastic Plug	Steel Plug	Oven Temp
Black Buna	20 ft-lbs	30 ft-lbs	450° F
White Buna	20 ft-lbs	30 ft-lbs	450° F
Irradiated LD Polyethylene	20 ft-lbs	30 ft-lbs	375° F
LD Polyethylene	20 ft-lbs	30 ft-lbs	120° F
Dapon	20 ft-lbs	30 ft-lbs	450° F
EPT / EPDM	20 ft-lbs	30 ft-lbs	450° F
White EPT / EPDM	20 ft-lbs	30 ft-lbs	450° F

3/4" Plugs

Material	Plastic Plug	Steel Plug	Oven Temp
Black Buna	9 ft-lbs	15 ft-lbs	450° F
White Buna	9 ft-lbs	15 ft-lbs	450° F
Irradiated LD Polyethylene	9 ft-lbs	15 ft-lbs	375° F
LD Polyethylene	9 ft-lbs	15 ft-lbs	120° F
Dapon	9 ft-lbs	15 ft-lbs	450° F
EPT / EPDM	9 ft-lbs	15 ft-lbs	450° F
White EPT / EPDM	9 ft-lbs	15 ft-lbs	450° F



Rieke® (RU/RS) LeverLock Closing Instructions

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Proper Application of the Rieke® (RU/RS) LeverLock Ring

Step 1--Place the cover on the pail. Press down along the edges and in the center of the cover to ensure that it is seated properly.

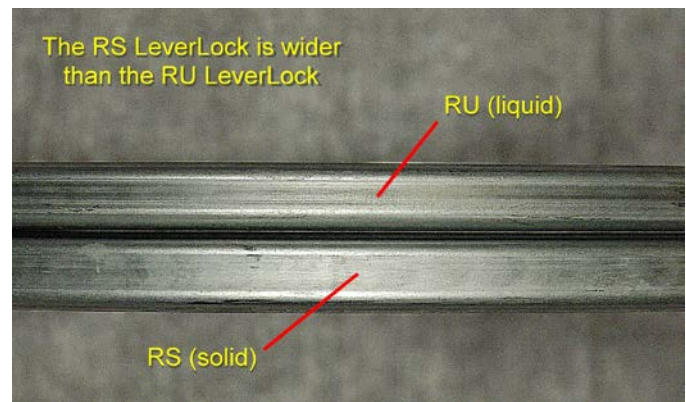
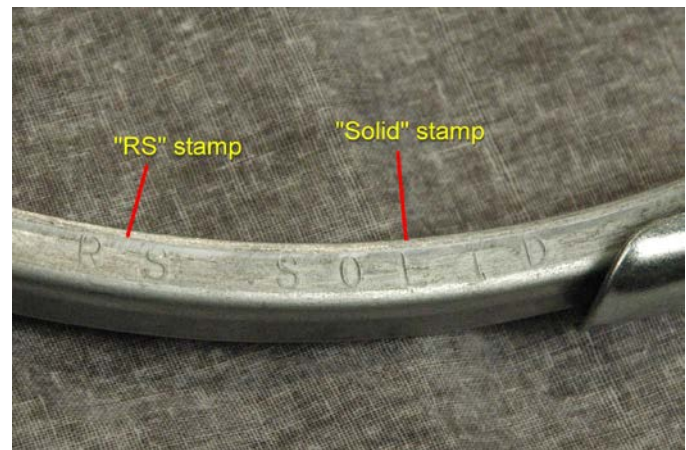
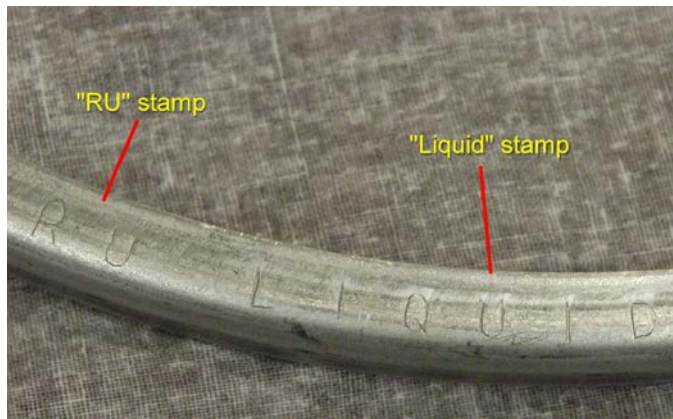


Step 2--Select the proper leverlock ring for the material being packaged.

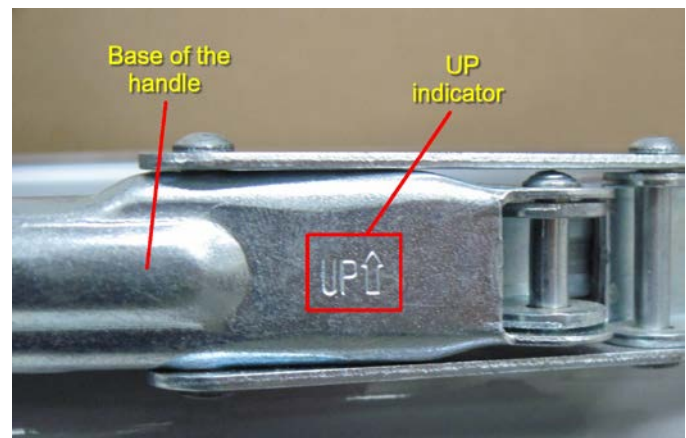
The **RU** leverlock ring is used when packaging **liquids**.

The **RS** leverlock ring is used when packaging **solids**.

The leverlock rings are stamped for the particular application. Also, the RS leverlock ring is wider than the RU leverlock ring.



Step 3--Before placing the leverlock ring on the pail, it must be oriented correctly. There is an **Up indicator** w/ an arrow stamped into the base of the handle. Orient the ring w/ the arrow pointing **up**.

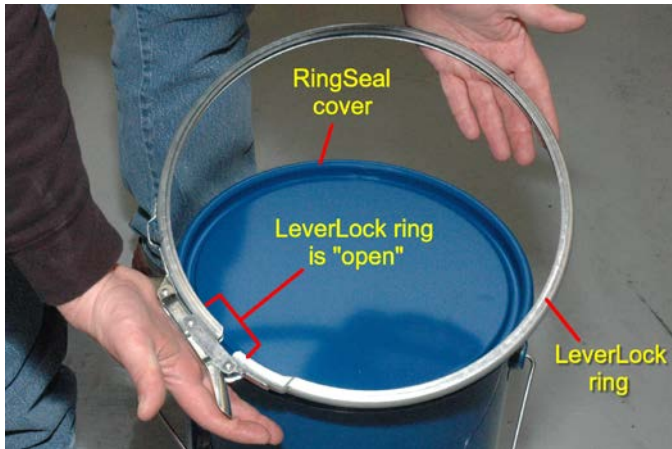




Rieke® (RU/RS) LeverLock Closing Instructions

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Step 4--Open the leverlock ring as wide as possible, then slip it over the pail. Be sure that the ring is placed on the pail in a manner that allows it to be closed by moving the lever *clockwise* onto the ring.



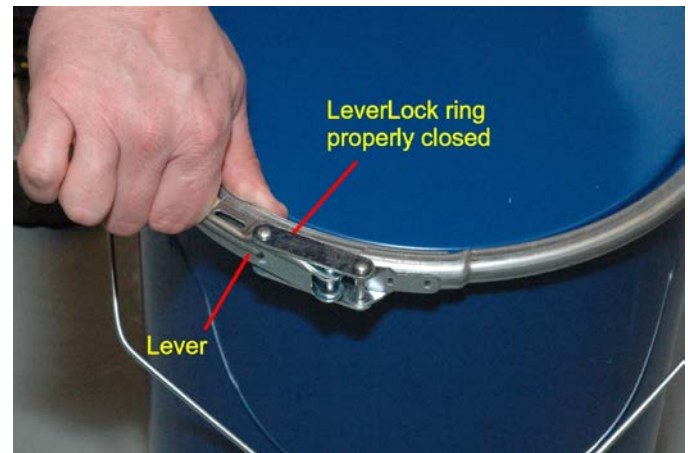
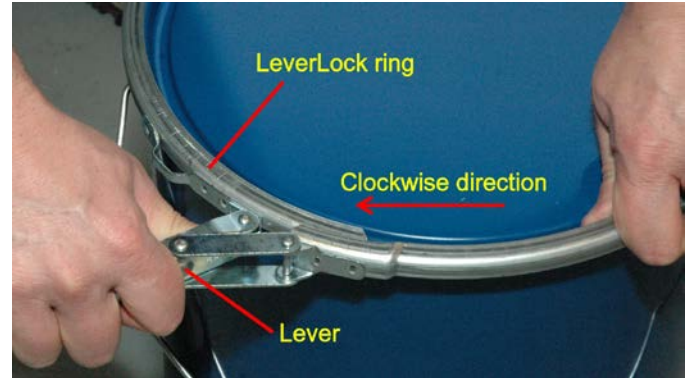
Step 5--Orient the lever on the ring to be opposite of the seam weld (180 degrees from the seam weld).

Step 6--Apply downward pressure to the cover and release the lever, allowing the ring to slide onto the cover/curl edge.

Note: The ring *must* encompass the cover/curl around the entire edge of the pail



Step 7--Close the ring clockwise by applying pressure to the lever until it collapses onto the ring.

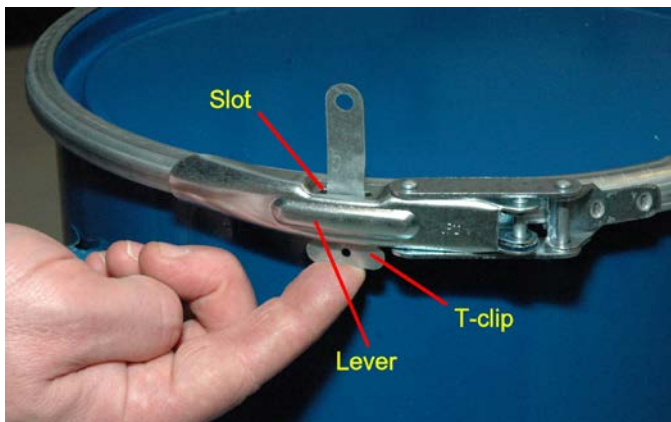
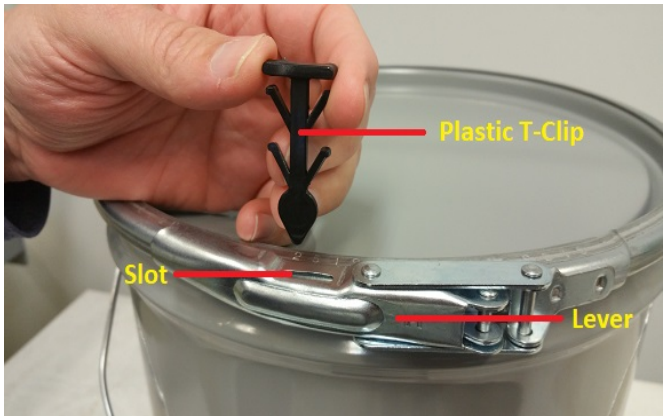




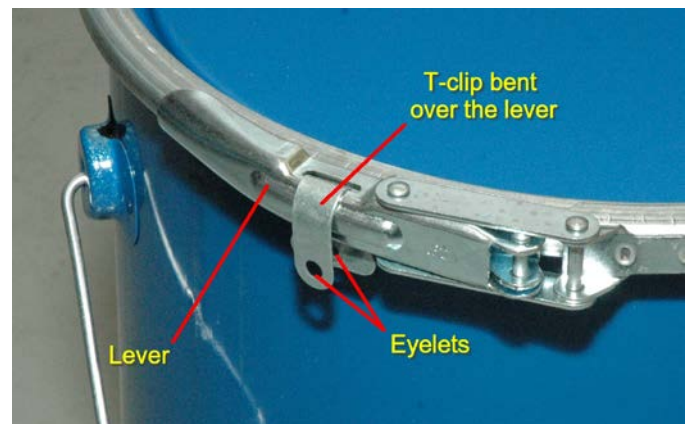
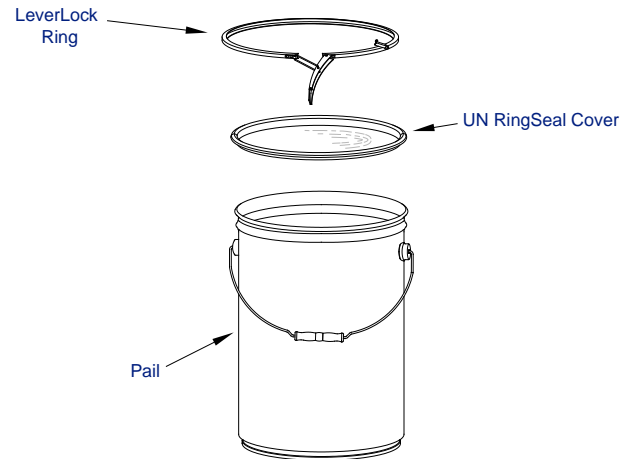
Rieke® (RU/RS) LeverLock Closing Instructions

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Step 8--Insert a plastic or metal tamper-evident T-clip through the slot in the lever. This will hold the lever in place. The T-clip should also pass through the loop attached to the body of the ring.



Step 9--If the ring is locked properly, it cannot be rotated or moved. If the ring slides, it is oversized.



Note: A locking mechanism can be inserted into the eyelet of the metal T-clip.

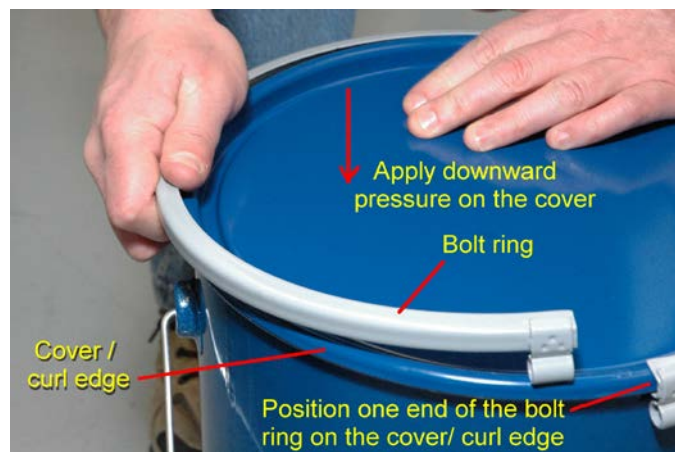


Bolt Ring Closing Instructions

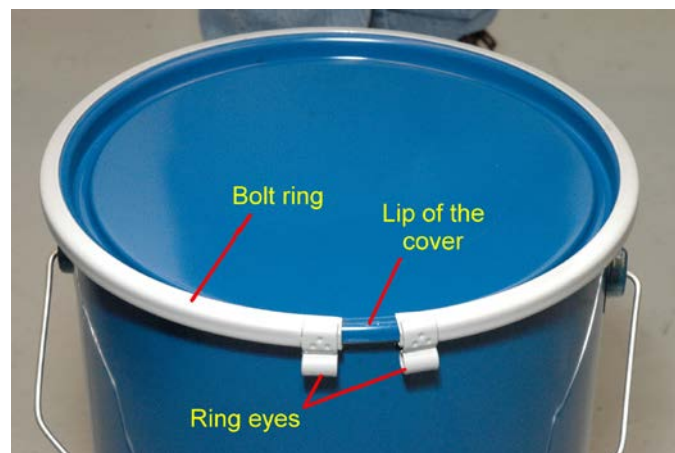
Document: QA-FM-L258 Date: 8/24/12 Rev: 4 Page: 1 of 2

Bolt Ring Closing Instructions (UN RingSeal Cover w/ R5 Bolt Ring)

Step 1-- Place the UN RingSeal cover on the pail. Press down along the edges and in the center of the cover to ensure that it is seated properly on the pail curl.



Step 3--To properly close the pail, the bolt ring should cover the lip of the cover **and** the curl of the pail. Also, the ring eyes must positioned **down**, below the curl of the pail.



Step 2-- Position the R5 bolt ring around the top of the pail. Start at one end of the bolt ring and work it around the entire perimeter of the cover/curl edge of the pail.

Step 4--Orient the bolt ring eyes opposite, or 180°, from the seam weld.

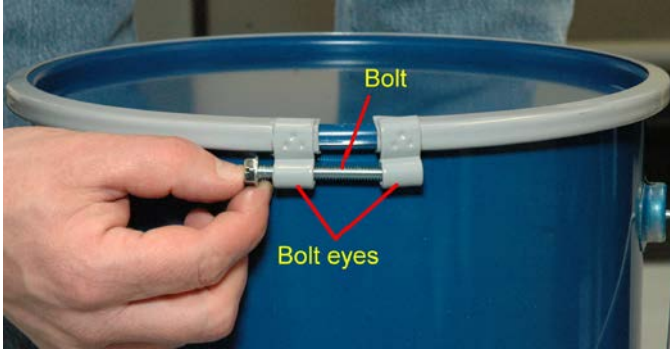
Note: Applying downward pressure on the cover while fitting the bolt ring to the pail will make this task easier



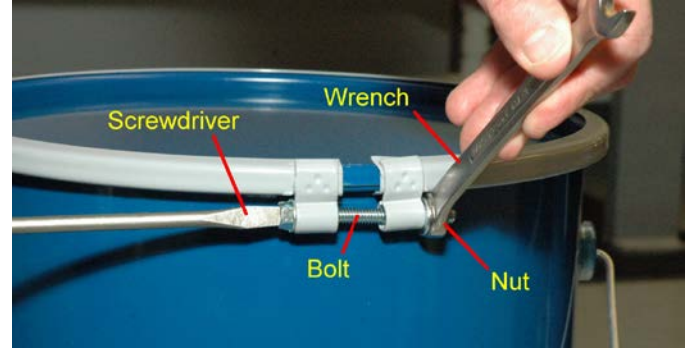
Bolt Ring Closing Instructions

Document: QA-FM-L258 Date: 8/24/12 Rev: 4 Page: 2 of 2

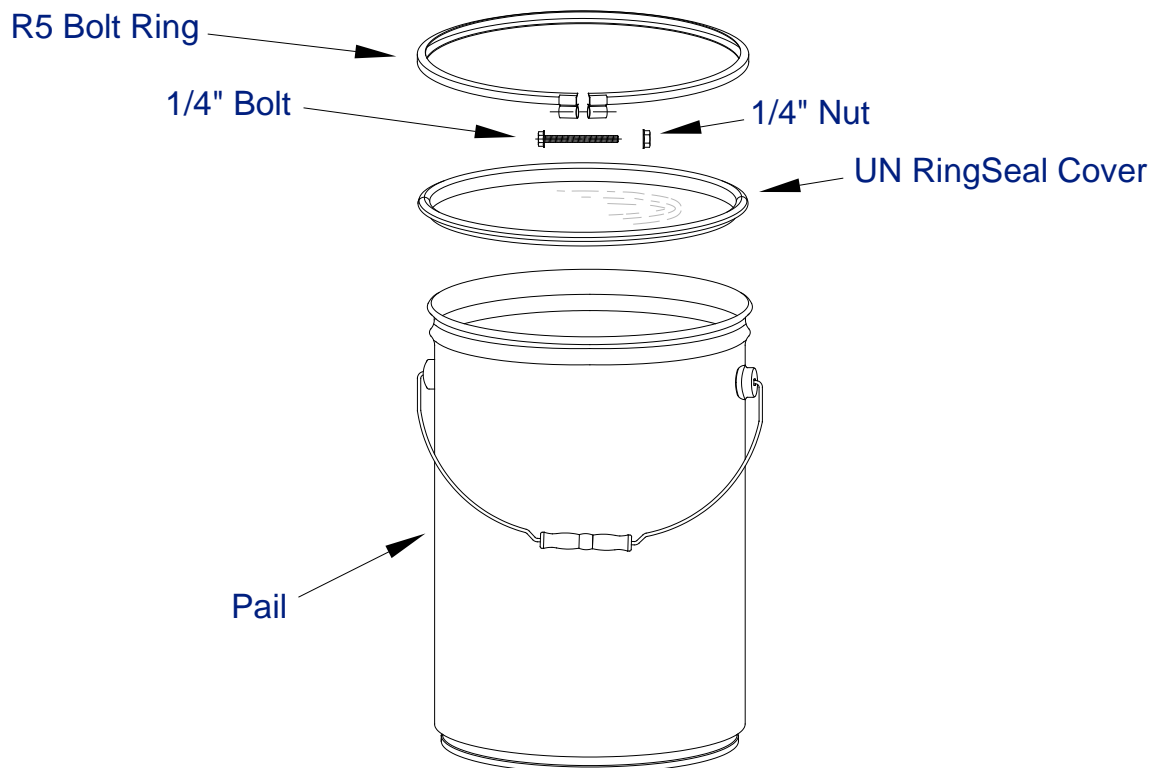
Step 5--Using both hands, squeeze the bolt ring eyes together. Slide the 1/4" bolt through the eyes.



Step 6--Thread the nut onto the 1/4" bolt. Tighten the nut and torque it to 50 in-lbs.



Step 7--Check to proper fit and tightness of the bolt ring. If the bolt ring is torqued properly, it cannot be rotated or moved. If the bolt ring slides, it might be oversized or improperly torqued.





UNi-Pak Tray w/ Scholle Bag Closing Instructions

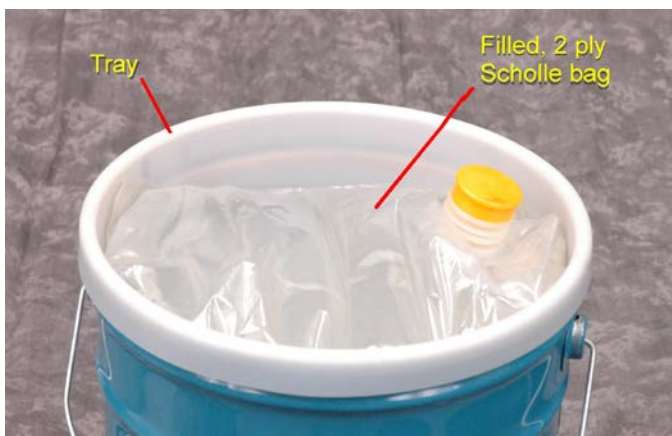
Document: QA-FM-L266 Date: 9/7/12 Rev: 4 Page: 1 of 3

UNi-Pak Tray w/ Scholle Bag Closing Instructions (UN Liner Cover)

Step 1--Position the tray into the filled pail, fitting it onto the pail curl.



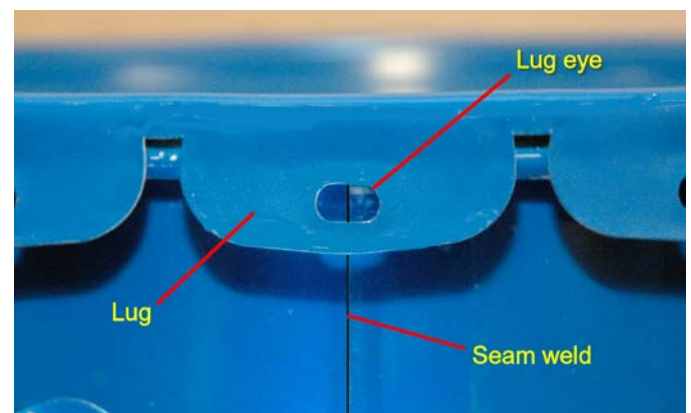
Step 2--Place the filled, 2-ply Scholle bag, horizontally, into the tray.



Step 3--Place the UN liner cover on the pail. Ensure that it is evenly seated around the curl of the pail.



The eye of one of the lugs should be centered directly over the seam weld of the pail.

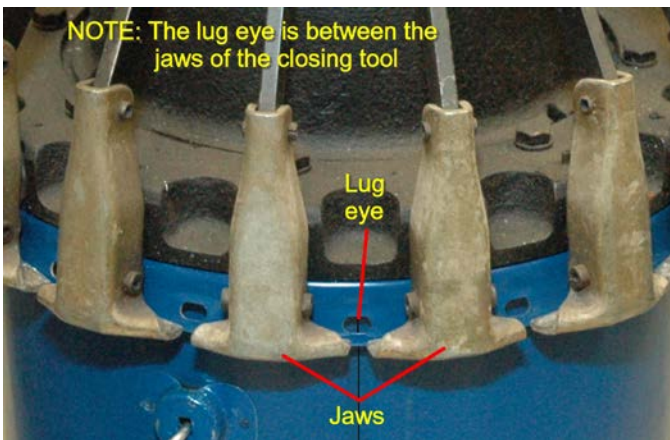
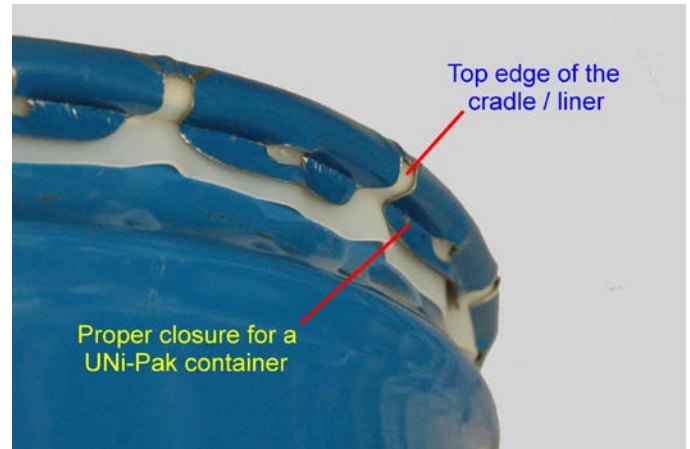
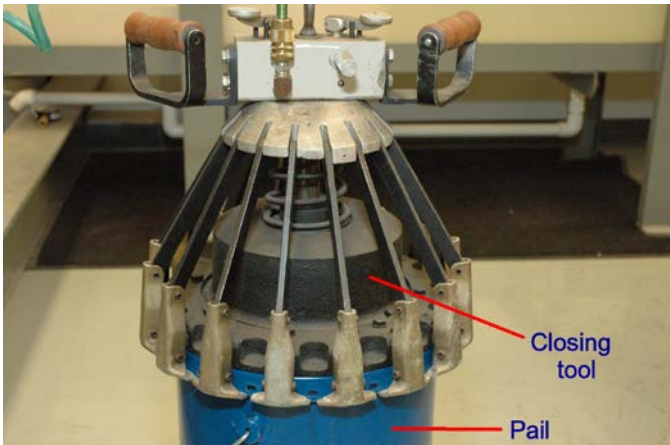


Step 4--Lower the closing tool onto the cover. Rotate the tool in order to position the lug eyes between the jaws of the closing tool.



UNi-Pak Tray w/ Scholle Bag Closing Instructions

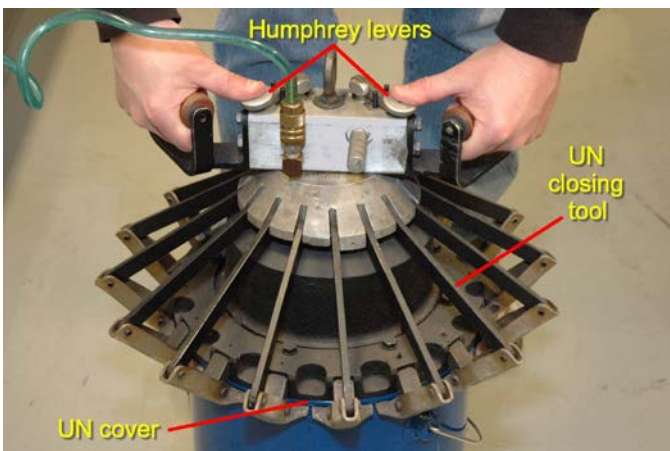
Document: QA-FM-L266 Date: 9/7/12 Rev: 4 Page: 2 of 3



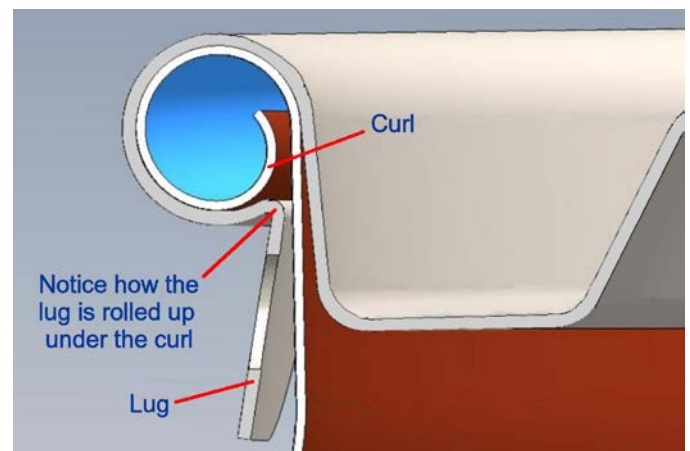
When the downward motion of the tool stops, release the handles.

Note: The use of pneumatic and manual closing tools is detailed in this closing instruction; however, many packaging facilities use automated closing tools; regardless of the closing tool used, the quality of the closure is critical

Step 5--To close the pail with the *pneumatic closing tool*, push the Humphrey levers on the top of the closing tool



Step 6--Check the integrity of the close to be sure that the cover is properly crimped. The cover lugs should be rolled up under the curl as shown in the drawing below.



When the downward motion of the tool stops, release the levers.

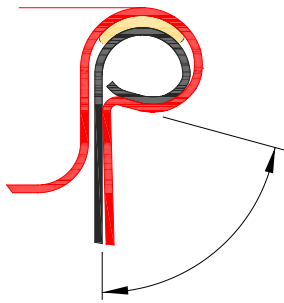
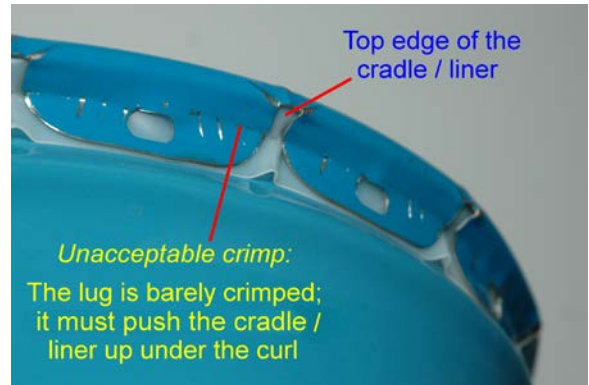
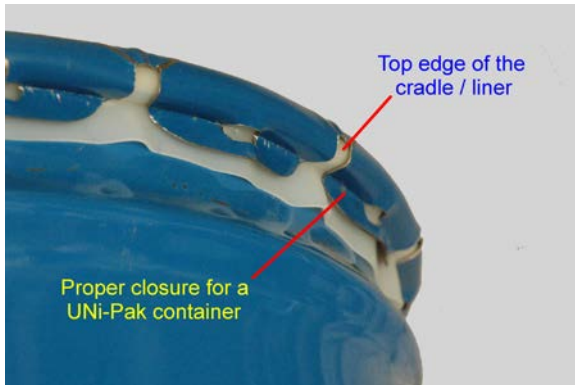
Step 7--Remove the closing tool. The lugs should be crimped under the curl of the pail at least 90° from the starting position

Review the photographs and drawings on the next page that illustrate the *preferred* crimp and the *unacceptable* crimp.

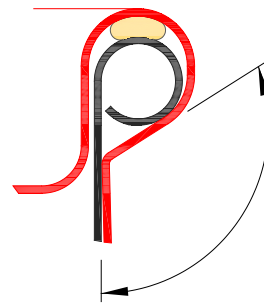


UNi-Pak Tray w/ Scholle Bag Closing Instructions

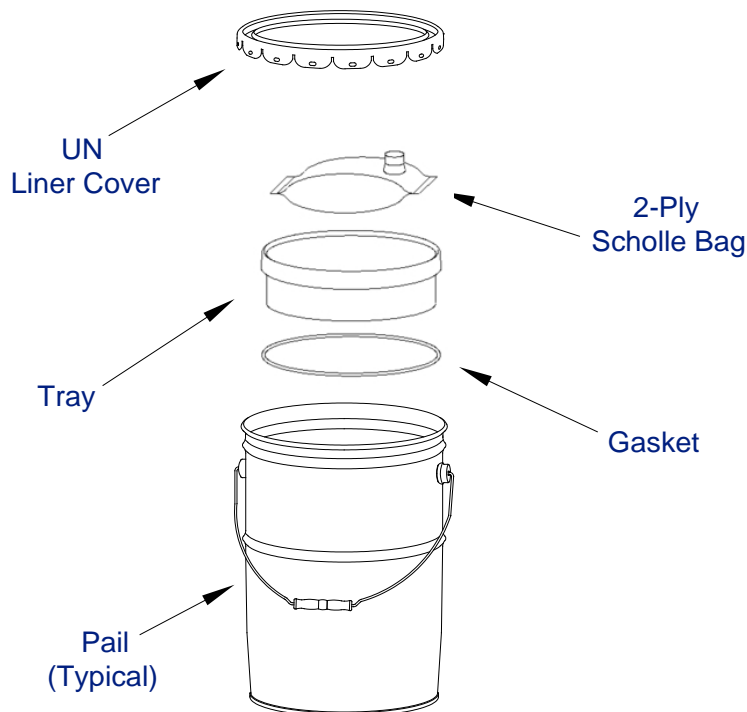
Document: QA-FM-L266 Date: 9/7/12 Rev: 4 Page: 3 of 3



Preferred Crimp



Unacceptable Crimp





UNi-Pak Tray Closing Instructions

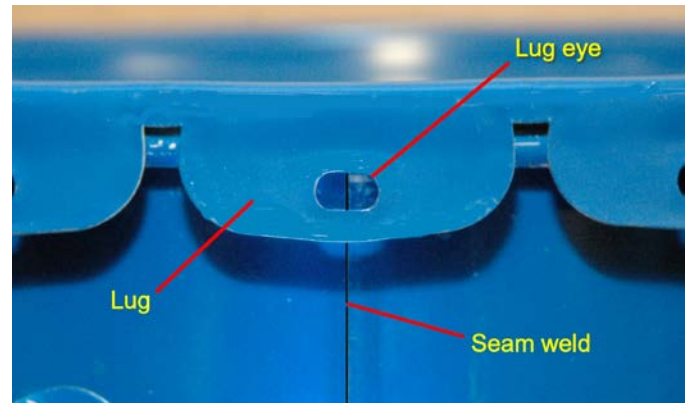
Document: QA-FM-L267 Date: 4/2/12 Rev: 3 Page: 1 of 3

UNi-Pak Tray Closing Instructions (UN Liner Cover)

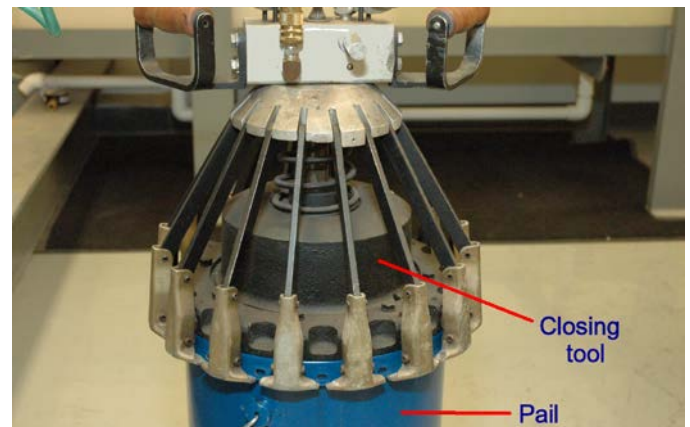
Step 1--Position the tray into the filled pail.



The eye of one of the lugs should be centered directly over the seam weld of the pail.

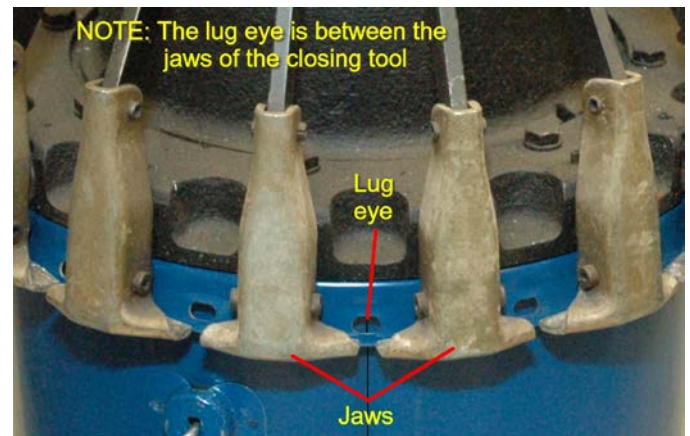


Step 4--Lower the closing tool onto the cover. Rotate the tool in order to position the lug eyes between the jaws of the closing tool.



Step 2--Fill the tray with the designated material.

Step 3--Place the UN liner cover on the pail. Ensure that it is evenly seated around the curl of the pail.

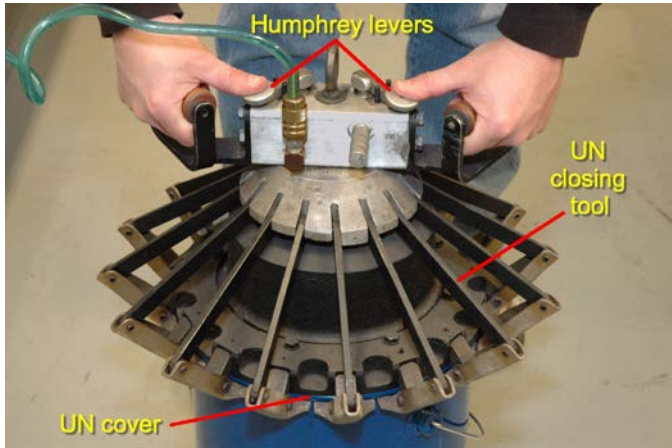




UNi-Pak Tray Closing Instructions

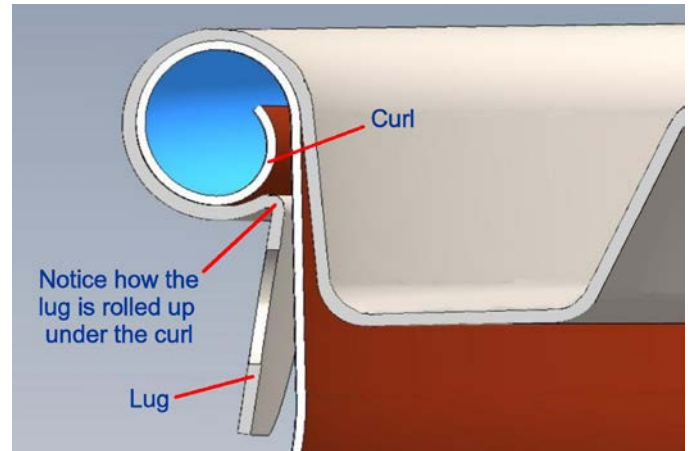
Document: QA-FM-L267 Date: 4/2/12 Rev: 3 Page: 2 of 3

Step 5--To close the pail with the *pneumatic closing tool*, push the Humphrey levers on the top of the closing tool



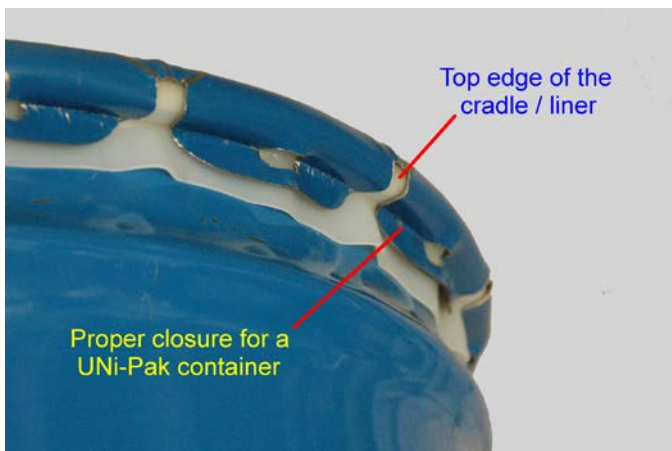
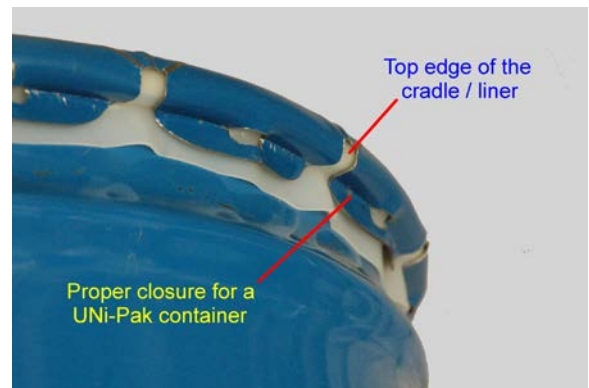
When the downward motion of the tool stops, release the levers.

Note: The use of pneumatic and manual closing tools is detailed in this closing instruction; however, many packaging facilities use automated closing tools; regardless of the closing tool used, the quality of the closure is critical

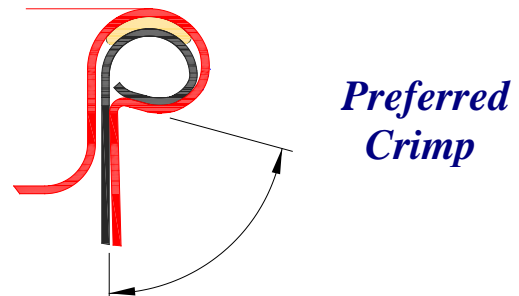


Step 7--Remove the closing tool. The lugs should be crimped under the curl of the pail at least 90° from the starting position

Review the photographs and drawings below and on the next page that illustrate the *preferred* crimp and the *unacceptable* crimp.



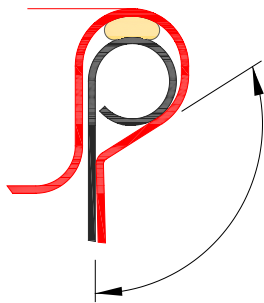
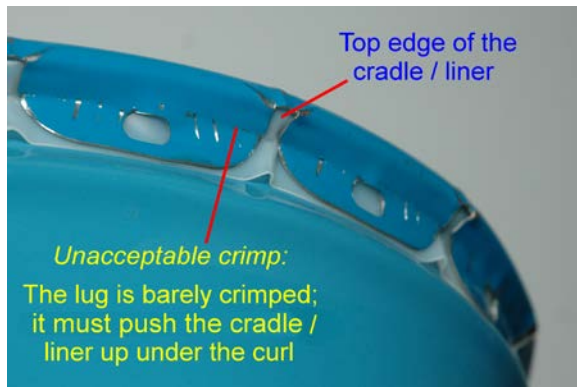
Step 6--Check the integrity of the close to be sure that the cover is properly crimped. The cover lugs should be rolled up under the curl as shown in the drawing below.



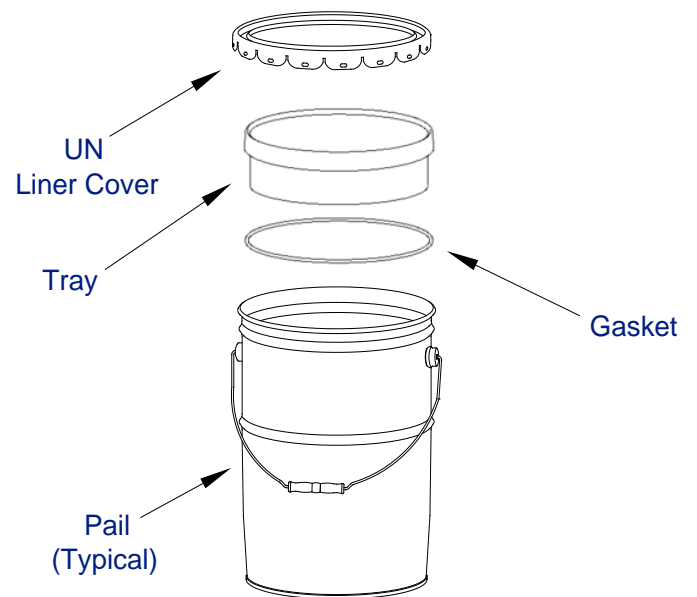


UNi-Pak Tray Closing Instructions

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**Unacceptable
Crimp**





Delpak Lug Cover Closing Instructions

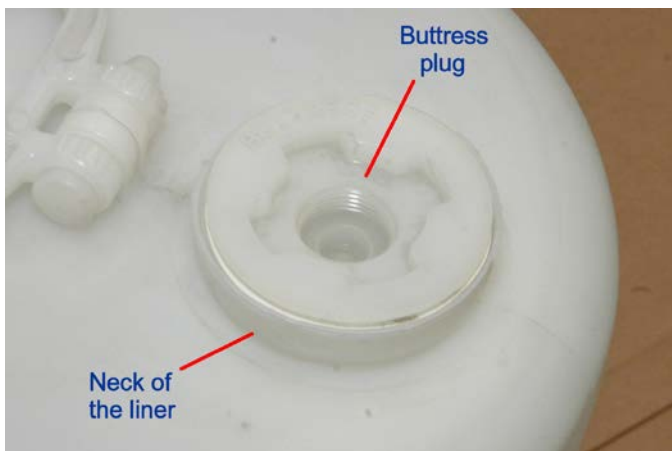
Document: QA-FM-L270 Date: 8/23/12 Rev: 3 Page: 1 of 4

Delpak Lug Cover Closing Instructions (UN Lug Cover)

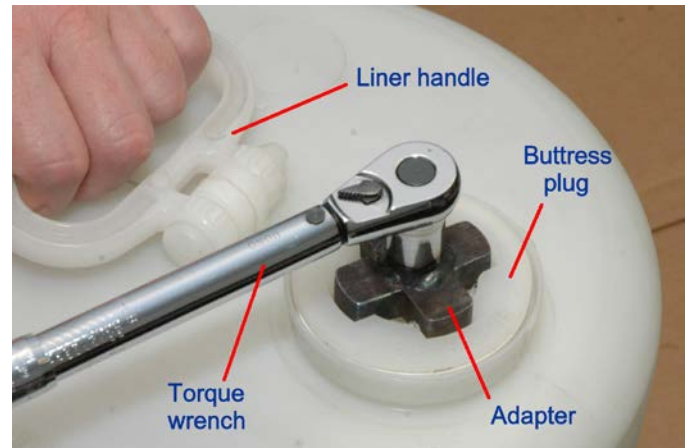
Step 1--Verify that the EPDM gasket is in place on the 2-inch buttress plug.



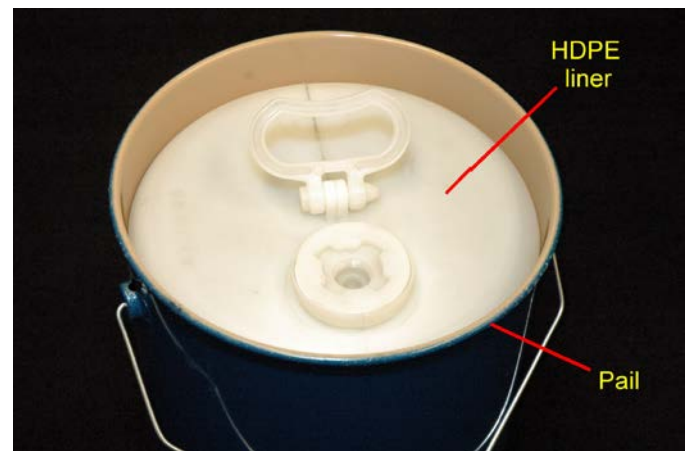
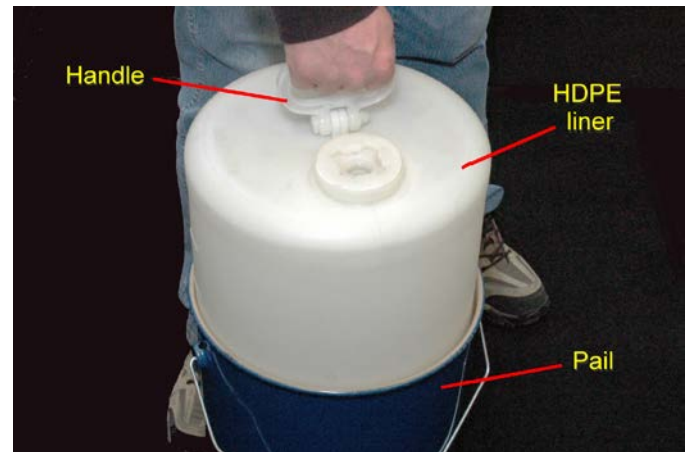
Step 2--Thread the buttress plug into neck of the filled HDPE liner.



Step 3--While holding the liner handle, tighten the buttress plug. Torque it to 250 in-lbs using the adapter and preset calibrated torque wrench



Step 4--Place the liner into the empty pail.

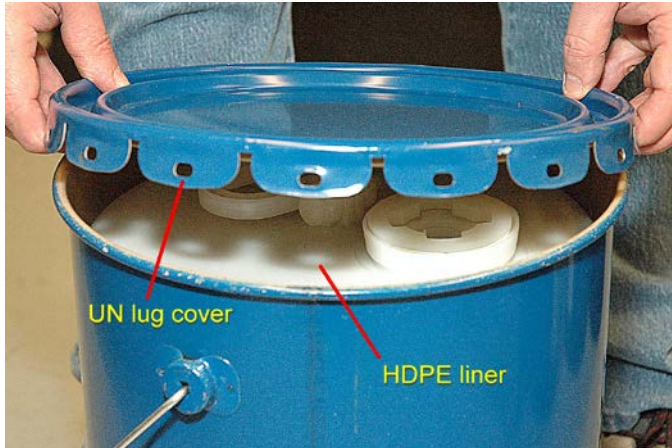




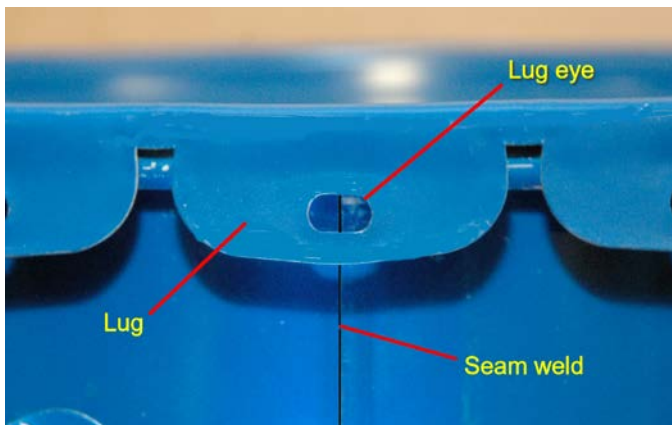
Delpak Lug Cover Closing Instructions

Document: QA-FM-L270 Date: 8/23/12 Rev: 3 Page: 2 of 4

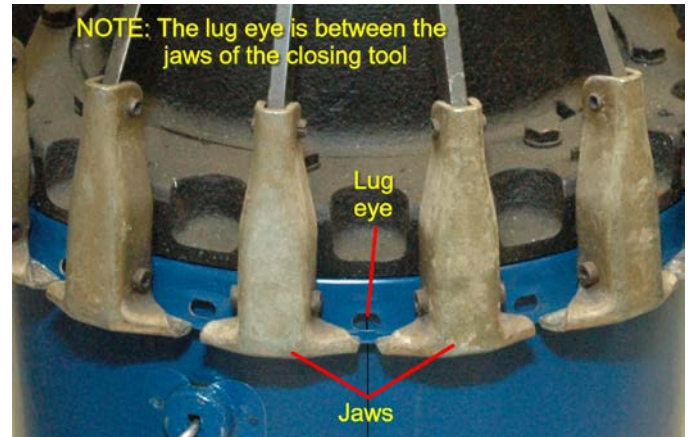
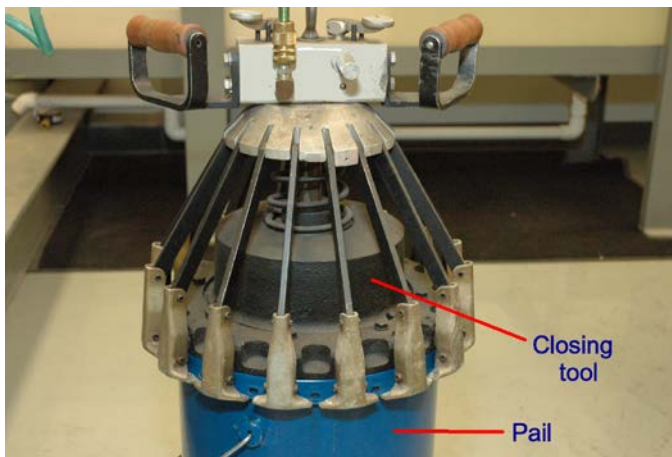
Step 5--Place the UN cover on pail. Ensure that it is evenly seated around the curl of the pail.



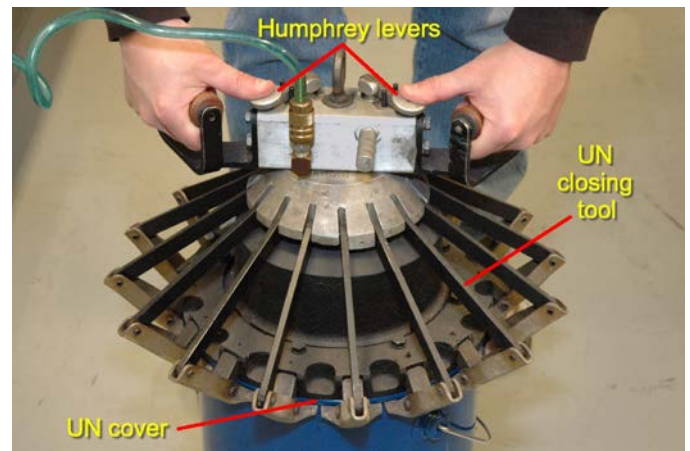
The eye of one of the lugs should be centered directly over the seam weld of the pail.



Step 6--Lower the closing tool onto the cover. Rotate the tool in order to position the lug eyes between the jaws of the closing tool.



Step 6a--To close the pail with the *pneumatic closing tool*, push the Humphrey levers on the top of the closing tool



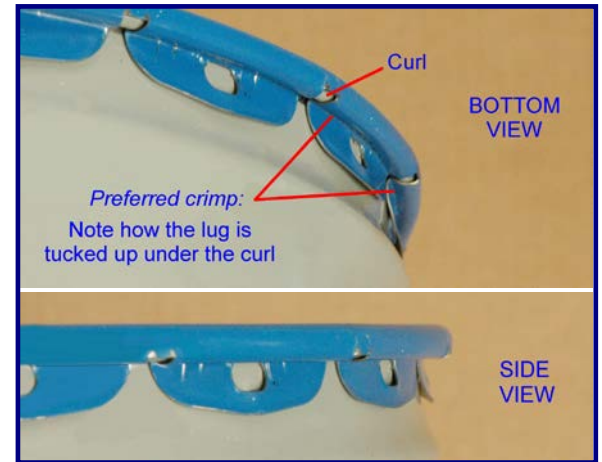
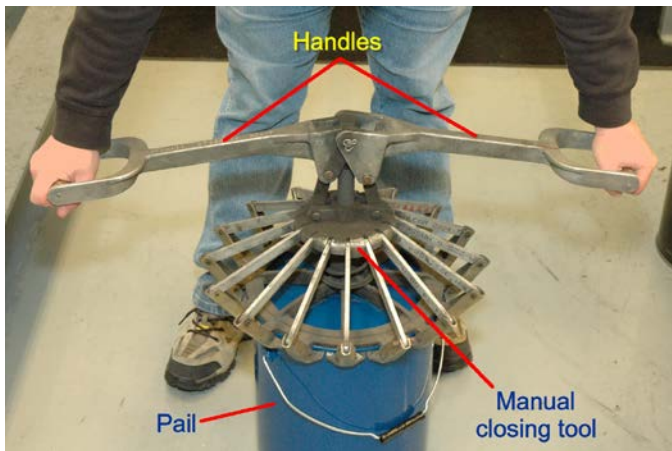
When the downward motion of the tool stops, release the levers.

Step 6b--To close the pail with the *manual closing tool*, push the handles down and out until the downward motion stops



Delpak Lug Cover Closing Instructions

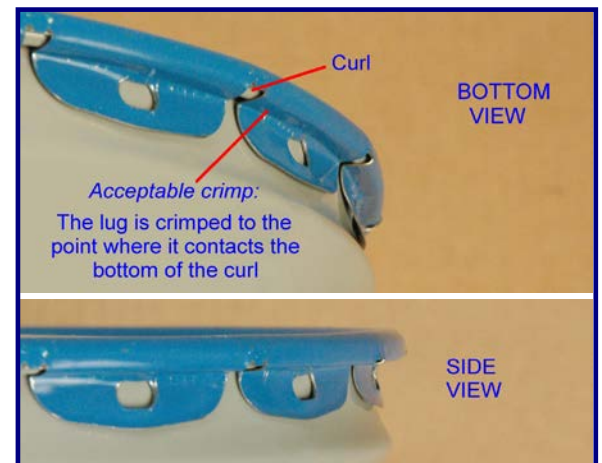
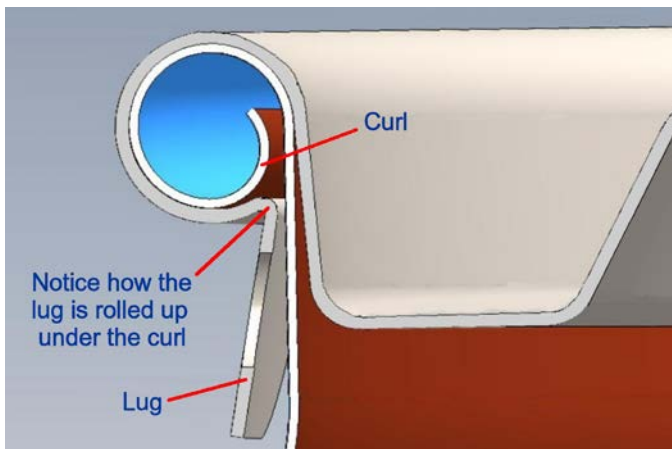
Document: QA-FM-L270 Date: 8/23/12 Rev: 3 Page: 3 of 4



When the downward motion of the tool stops, release the handles.

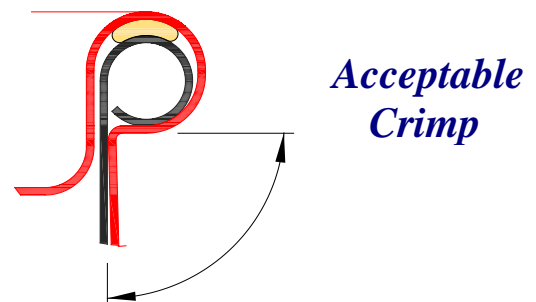
Note: The use of pneumatic and manual closing tools is detailed in this closing instruction; however, many packaging facilities use automated closing tools; regardless of the closing tool used, the quality of the closure is critical

Step 7--Check the integrity of the close to be sure that the cover is properly crimped. The cover lugs should be rolled up under the curl as shown in the photograph below.



Step 8--Remove the closing tool. The lugs should be crimped under the curl of the pail at least 90° from the starting position

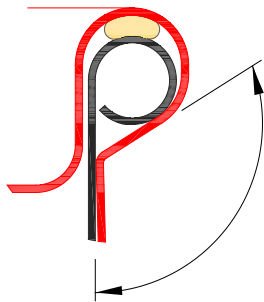
Review the following photographs and drawings that illustrate the *preferred* crimp, the *acceptable* crimp and the *unacceptable* crimp.



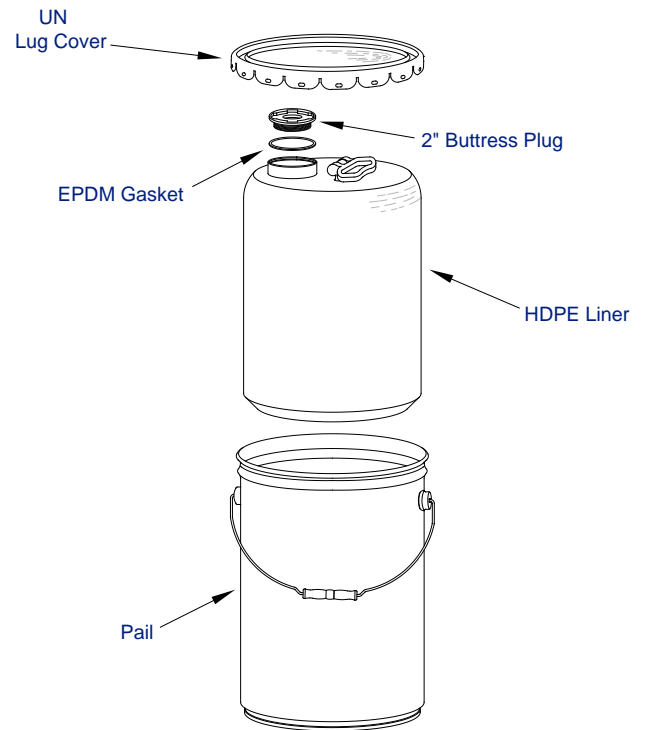


Delpak Lug Cover Closing Instructions

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**Unacceptable
Crimp**





Delpak LeverLock Ring Closing Instructions

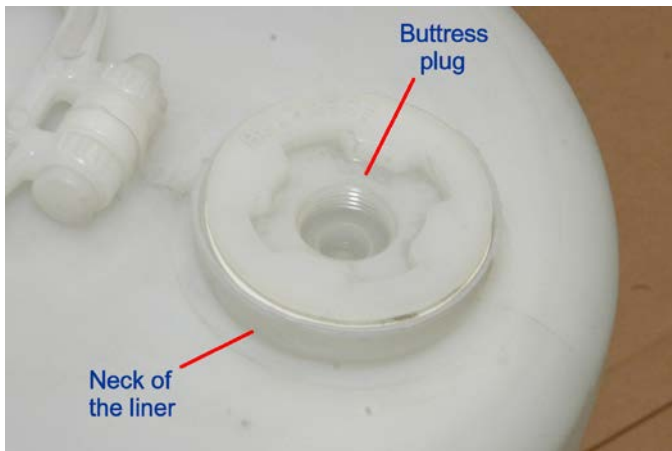
Document: QA-FM-L271 Date: 10/24/19 Rev: 4 Page: 1 of 4

Delpak LeverLock Ring Closing Instructions (UN RingSeal Cover w/ RU LeverLock Ring)

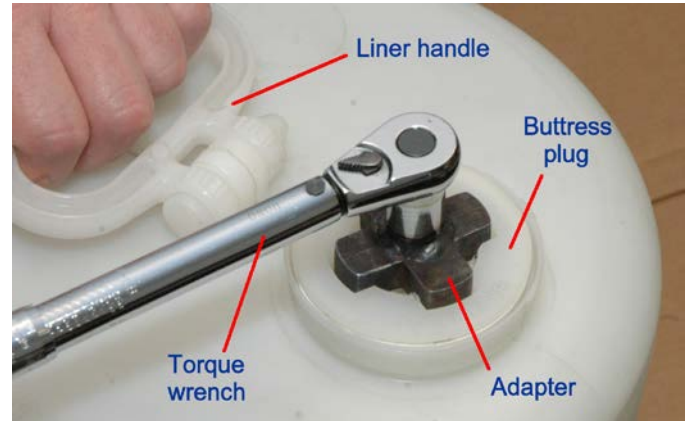
Step 1--Verify that the EPDM gasket is in place on the 2-inch buttress plug.



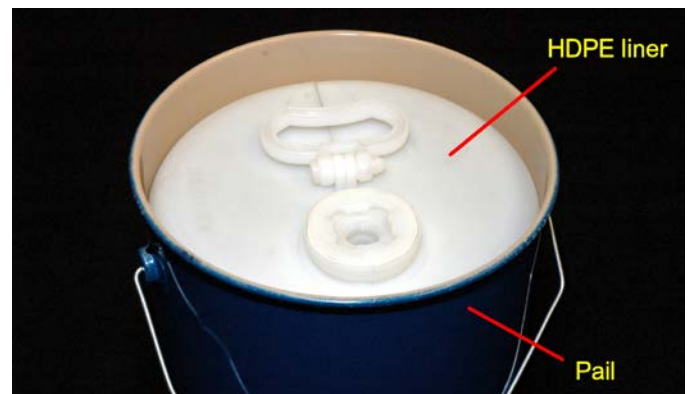
Step 2--Thread the buttress plug into neck of the filled HDPE liner.



Step 3--While holding the liner handle, tighten the buttress plug. Torque it to 250 in-lbs using the adapter and preset calibrated torque wrench



Step 4--Place the liner into the empty pail.

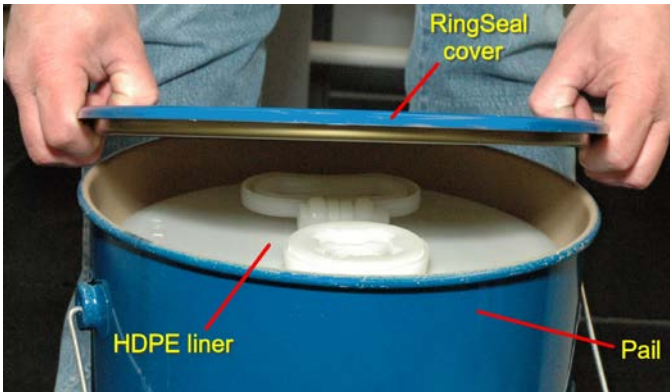


Step 5--Place the steel RingSeal cover on the pail. Press down along the edges and in the center of the cover to ensure that it is seated properly.

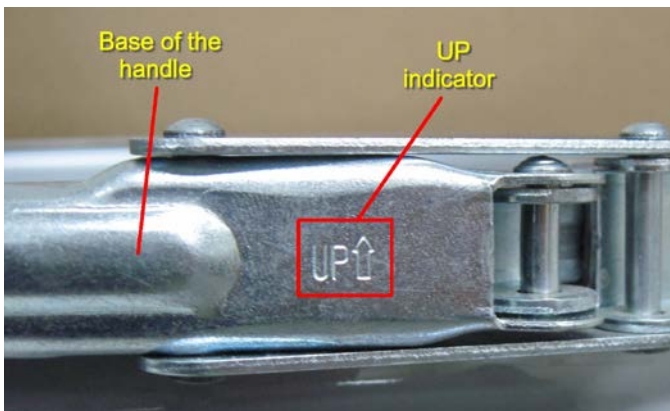


Delpak LeverLock Ring Closing Instructions

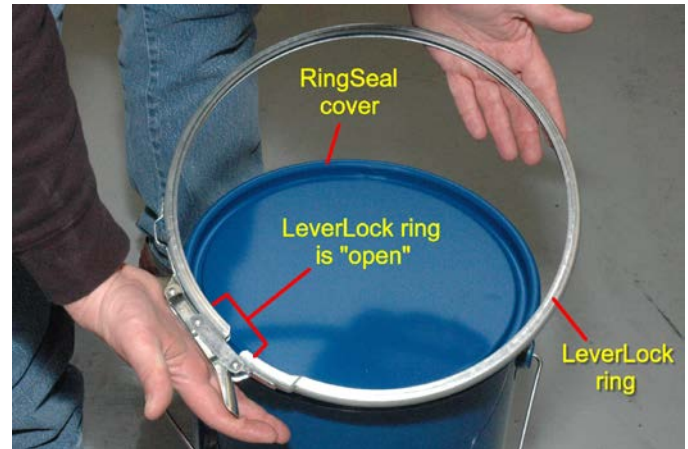
Document: QA-FM-L271 Date: 10/24/19 Rev: 4 Page: 2 of 4



Step 6--Before placing the leverlock ring on the pail, it must be oriented correctly. There is an **Up indicator** w/ an arrow stamped into the base of the handle. Orient the ring w/ the arrow pointing **up**.



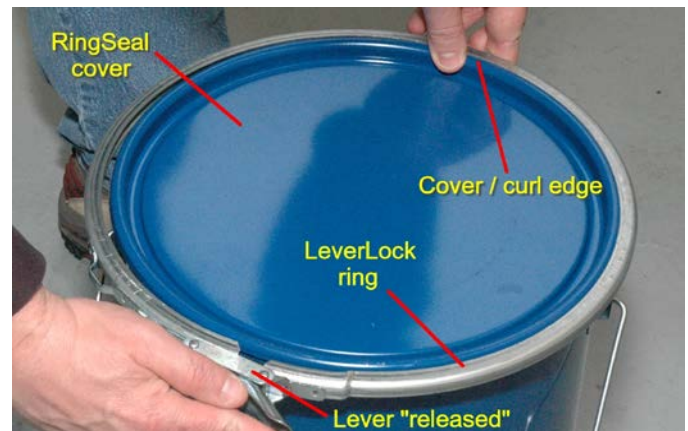
Step 7--Open the leverlock ring as wide as possible, then slip it over the pail. Be sure that the ring is placed on the pail in a manner that allows it to be closed by moving the lever **clockwise** onto the ring.



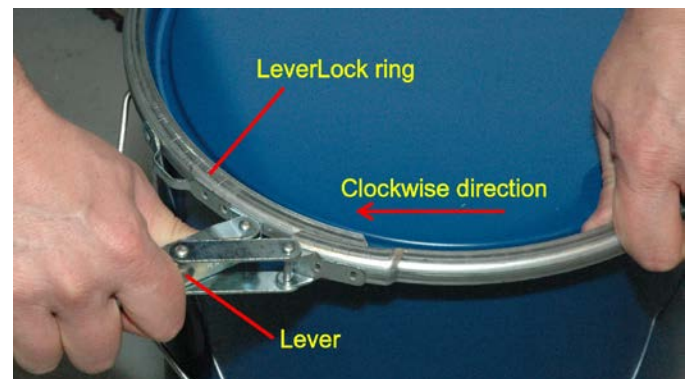
Step 8--Orient the lever on the ring to be opposite of the seam weld (180 degrees from the seam weld).

Step 9--Apply downward pressure to the cover and release the lever, allowing the ring to slide onto the cover/curl edge.

Note: The ring **must** encompass the cover/curl around the entire edge of the pail



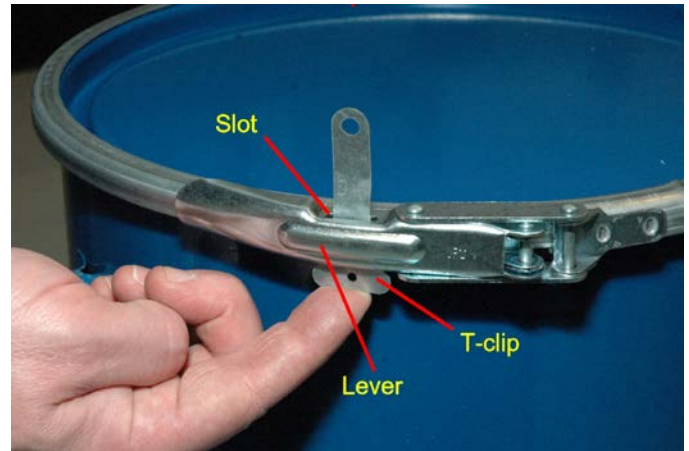
Step 10--Close the ring clockwise by applying pressure to the lever until it collapses onto the ring.





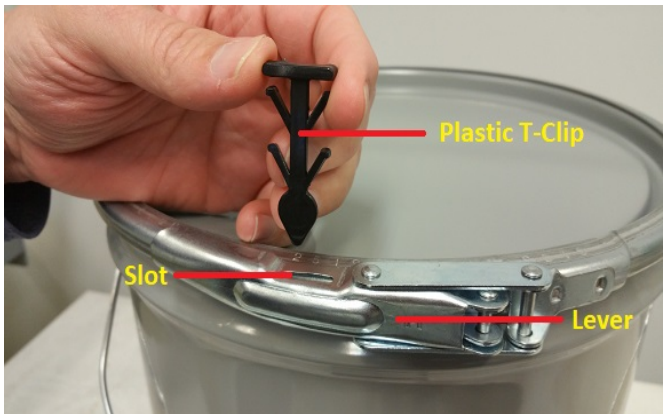
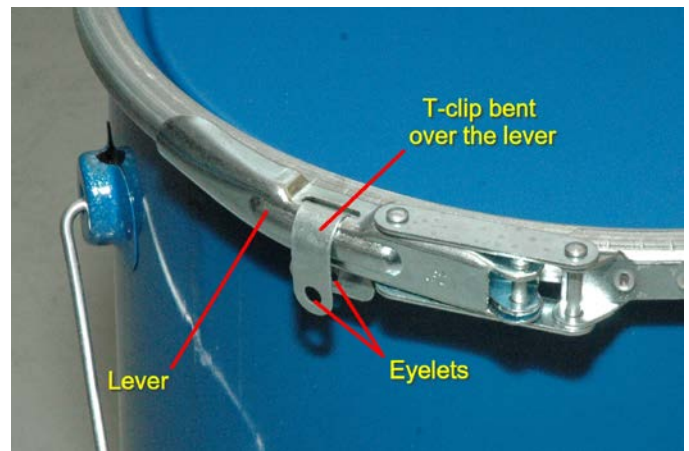
Delpak LeverLock Ring Closing Instructions

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Note--If the ring is locked properly, it cannot be rotated or moved. If the ring slides, it is oversized.

Step 11--Insert a plastic or metal tamper-evident T-clip through the slot in the lever. This will hold the lever in place. The T-clip should also pass through the loop attached to the body of the ring.



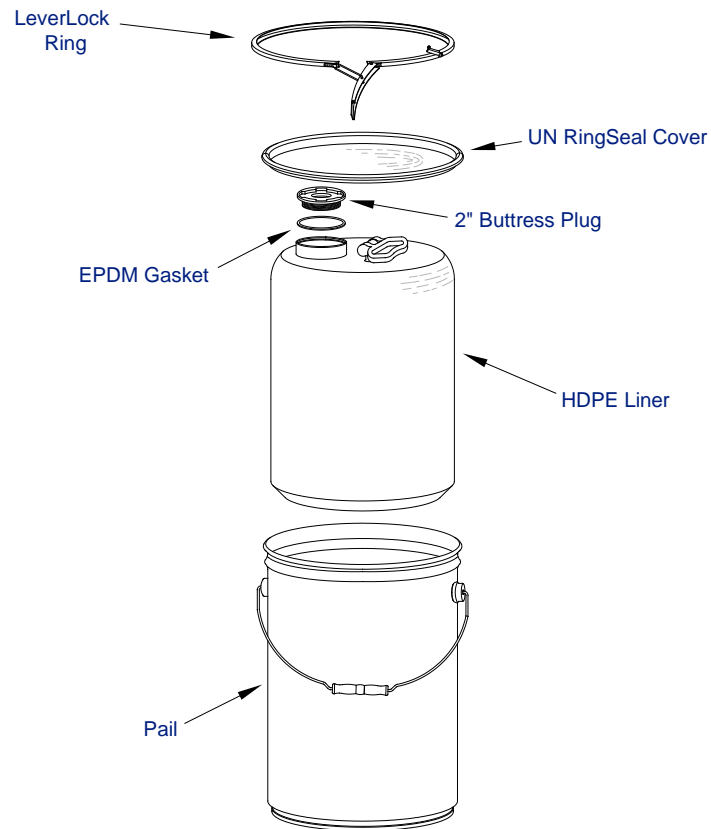
Note: A locking mechanism can be inserted into the eyelet of the latch to make the lever tamper-evident





Delpak LeverLock Ring Closing Instructions

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Delpak Bolt Ring Closing Instructions

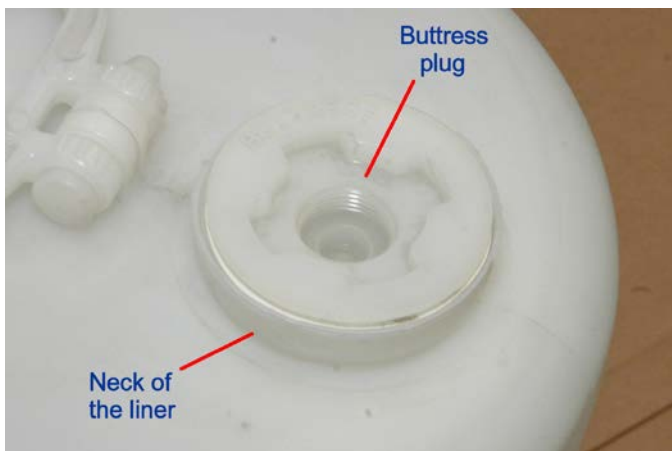
Document: QA-FM-L272 Date: 2/7/12 Rev: 3 Page: 1 of 3

Delpak Bolt Ring Closing Instructions (UN RingSeal Cover w/ R5 Bolt Ring)

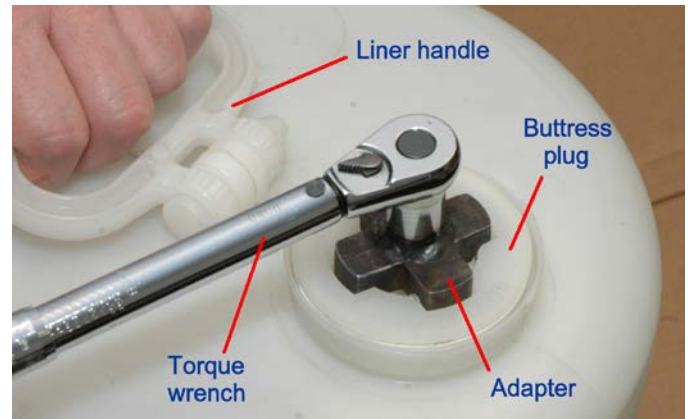
Step 1--Verify that the EPDM gasket is in place on the 2-inch buttress plug.



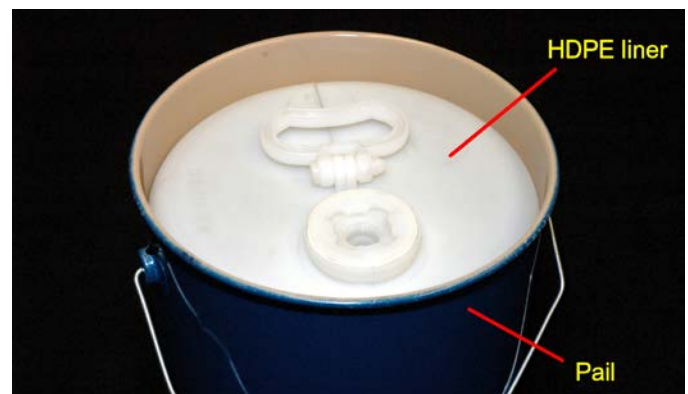
Step 2--Thread the buttress plug into the neck of the filled HDPE liner.



Step 3--While holding the liner handle, tighten the buttress plug. Torque it to 250 in-lbs using the adapter and preset calibrated torque wrench.



Step 4--Place the liner into the empty pail.

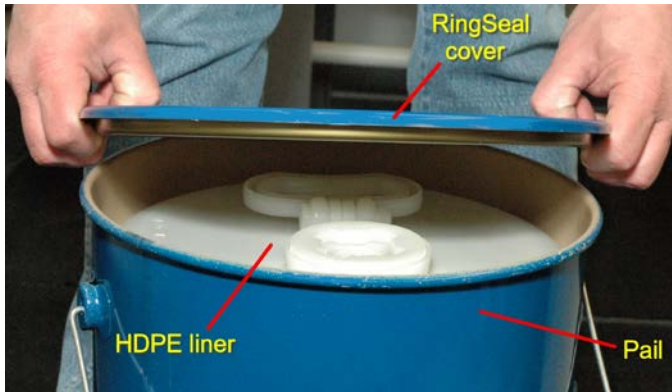


Step 5--Place the UN RingSeal cover on the pail. Press down along the edges and in the center of the cover to ensure that it is seated properly.



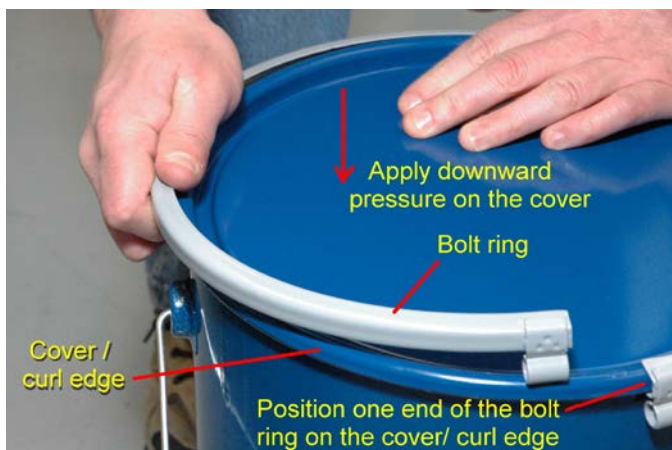
Delpak Bolt Ring Closing Instructions

Document: QA-FM-L272 Date: 2/7/12 Rev: 3 Page: 2 of 3

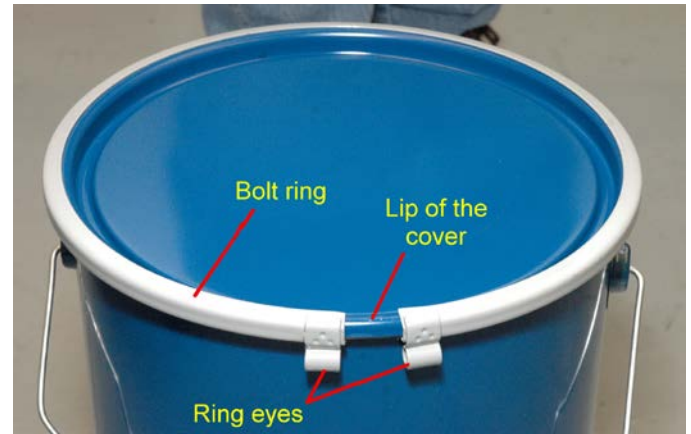


Step 5--Position the R5 bolt ring around the top of the pail. Start at one end of the bolt ring and work it around the entire perimeter of the cover/curl edge of the pail.

Note: Applying downward pressure on the cover while fitting the bolt ring to the pail will make this task easier

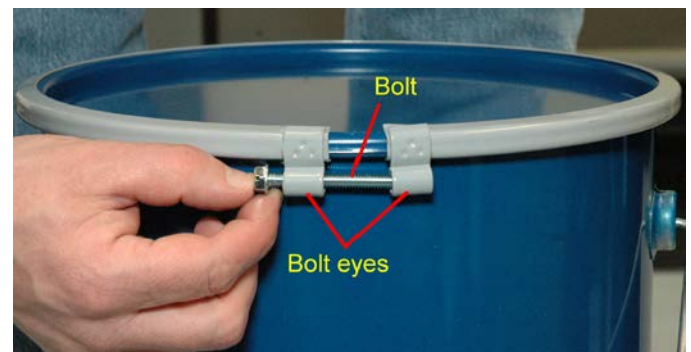


Step 6--To properly close the pail, the bolt ring should cover the lip of the cover **and** the curl of the pail. Also, the ring eyes must positioned **down**, below the curl of the pail.

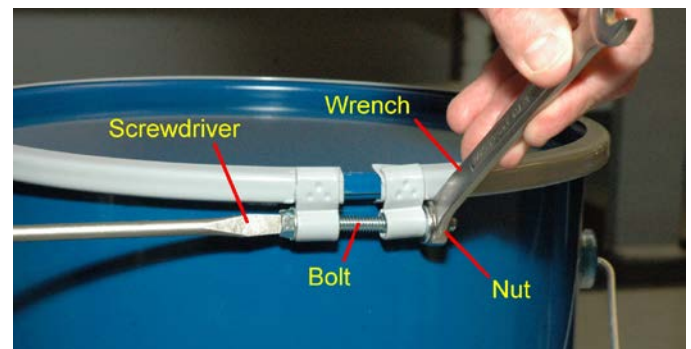


Step 7--Orient the bolt ring eyes opposite, or 180°, from the seam weld.

Step 8--Using both hands, squeeze the bolt ring eyes together. Slide the 1/4" bolt through the eyes.



Step 9--Thread the nut onto the 1/4" bolt. Tighten the nut and torque it to 50 in-lbs.

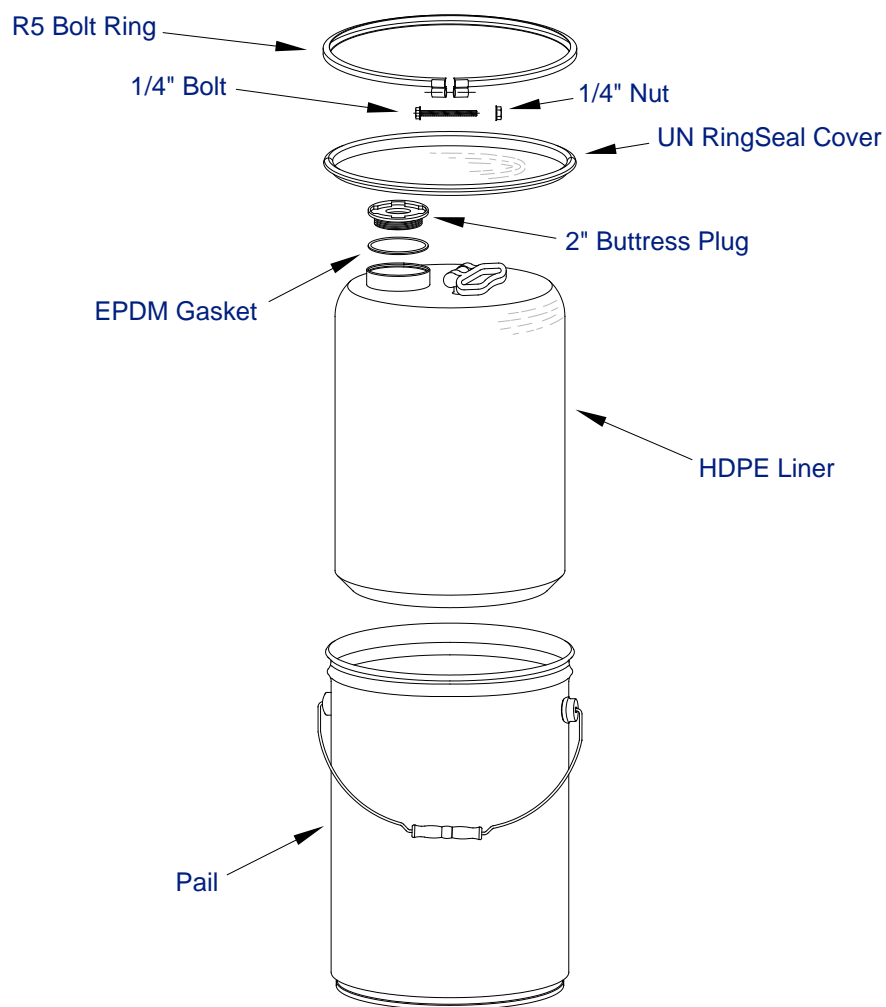




Delpak Bolt Ring Closing Instructions

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Step 10--Check to proper fit and tightness of the bolt ring. If the bolt ring is torqued properly, it cannot be rotated or moved. If the bolt ring slides, it might be oversized or improperly torqued.





Pail Liner Closing Instructions

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Pail Liner Closing Instructions (UN Lug Cover)

Step 1--Place the pail liner into the empty pail.



Step 3--Fill the pail liner/pail with the designated material.



Step 4--Place the polyethylene, or compatible, sheet liner over the opening of the pail, *if desired*. Be sure to center the sheet liner in order to cover the entire opening.

Note: Using the polyethylene sheet liner will make the package *ineligible* for air transport due to performance limitations on the hydrostatic pressure test

Step 2--Using your hands, push the pail liner against the wall of the pail





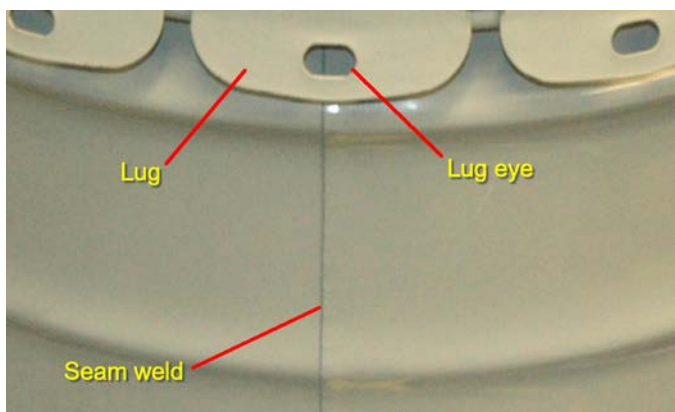
Pail Liner Closing Instructions

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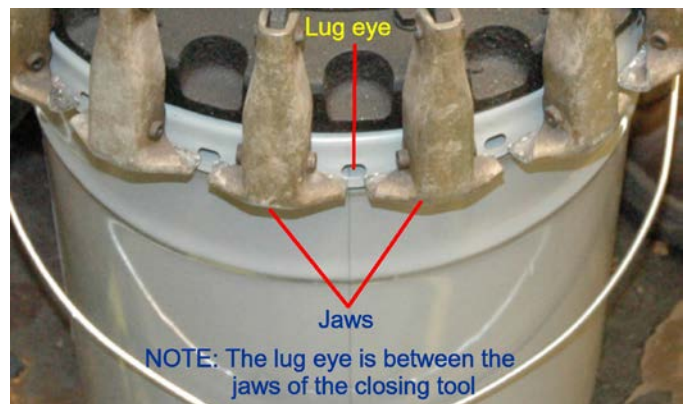
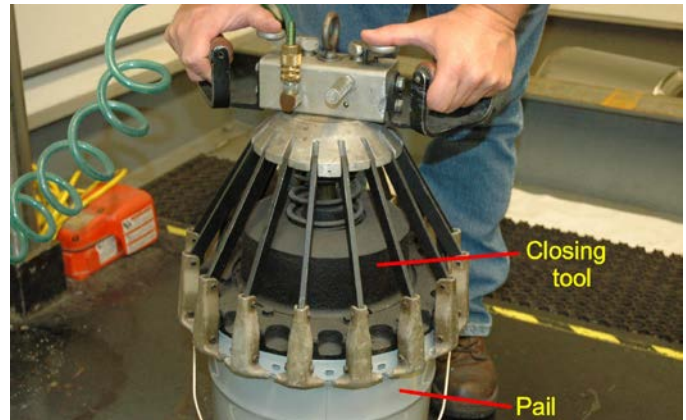
Step 5--Place the UN cover on the pail. Ensure that it is evenly seated around the curl of the pail.



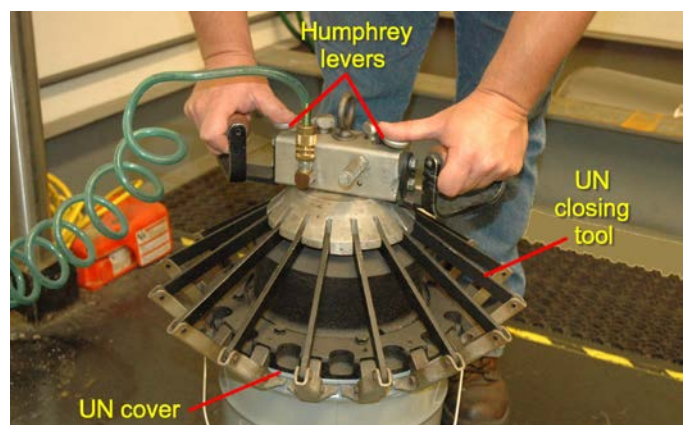
The eye of one of the lugs should be centered directly over the seam weld of the pail.



Step 6--Lower the closing tool onto the cover. Rotate the tool in order to position the lug eyes between the jaws of the closing tool.



Step 6a--To close the pail with the *pneumatic closing tool*, push the Humphrey levers on the top of the closing tool



When the downward motion of the tool stops, release the levers.



Pail Liner Closing Instructions

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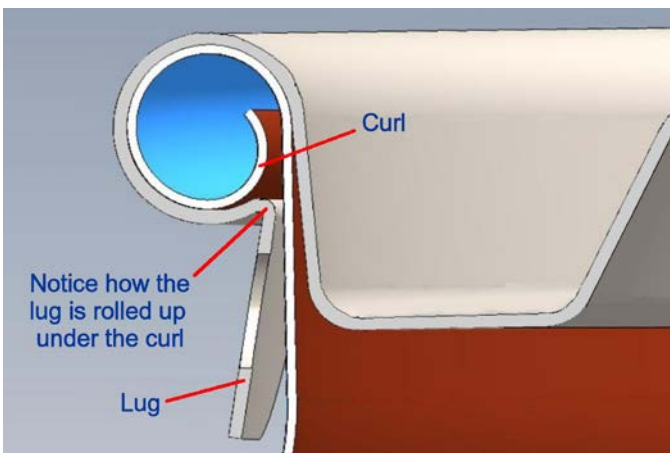


Step 6b--To close the pail with the *manual closing tool*, push the handles down and out until the downward motion stops.

When the downward motion of the tool stops, release the handles.

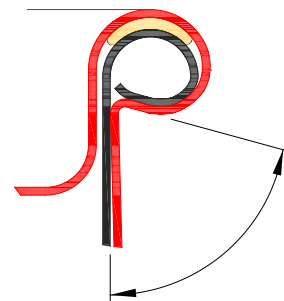
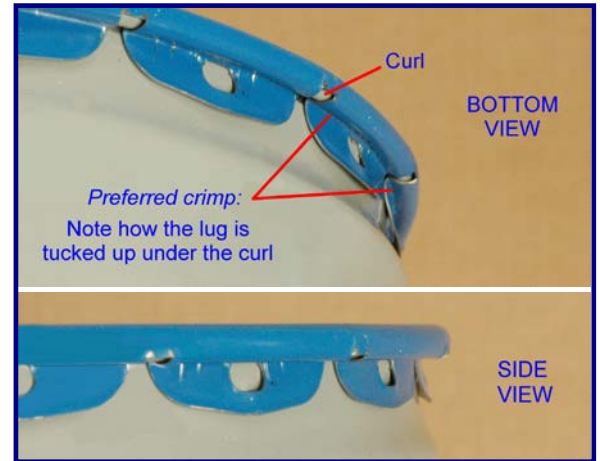
Note: The use of pneumatic and manual closing tools is detailed in this closing instruction; however, many packaging facilities use automated closing tools; regardless of the closing tool used, the quality of the closure is critical

Step 7--Check the integrity of the close to be sure that the cover is properly crimped. The cover lugs should be rolled up under the curl as shown in the photograph below.



Step 8--Remove the closing tool. The lugs should be crimped under the curl of the pail at least 90° from the starting position.

Review the photographs and drawings on this page and the next that illustrate the *preferred* crimp, the *acceptable* crimp and the *unacceptable* crimp.

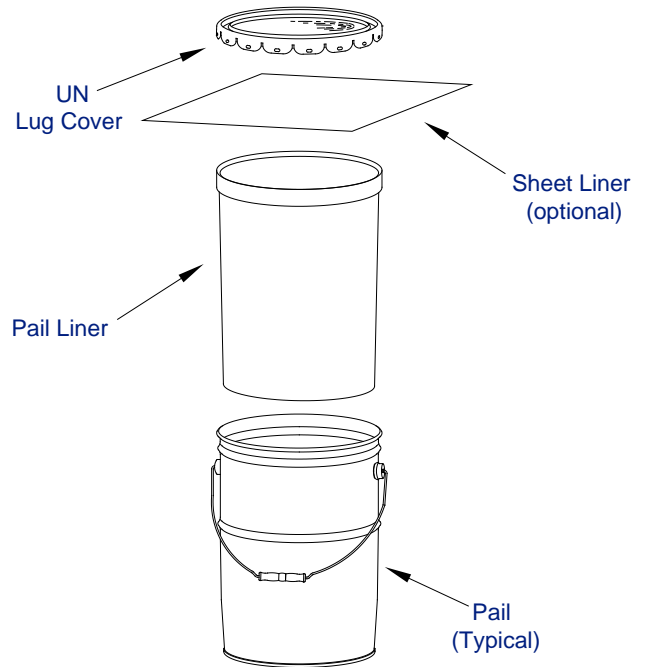
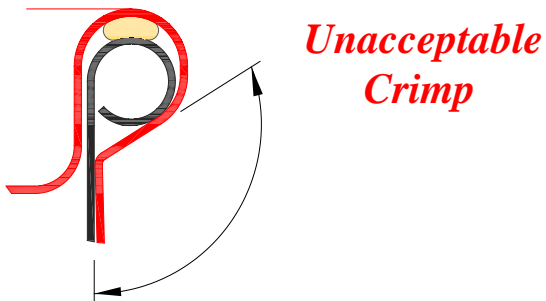
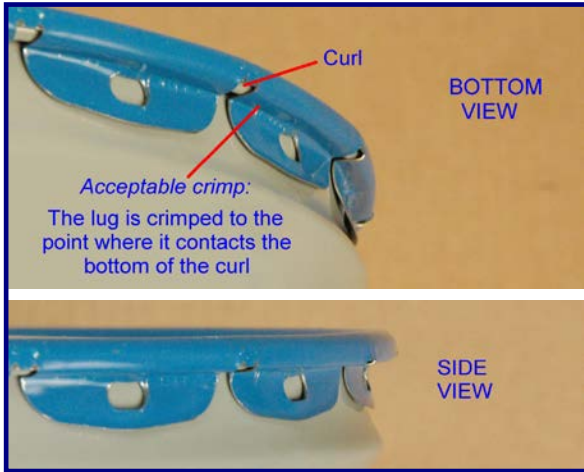


Preferred Crimp



Pail Liner Closing Instructions

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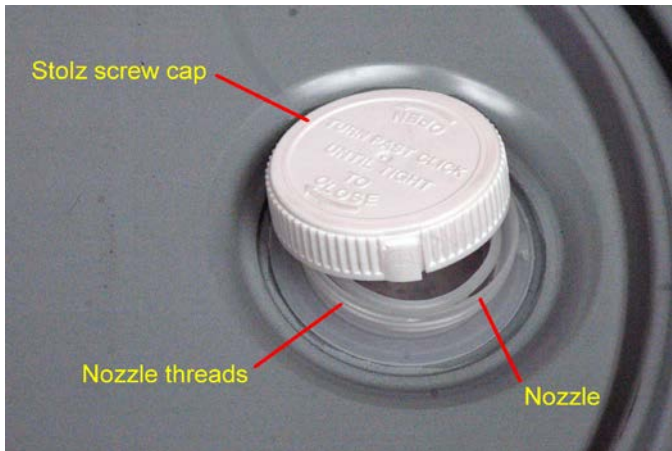


Stolz HZ60 Screw Cap Closing Instructions

Document: QA-FM-L274 Date: 11/1/12 Rev: 1 Page: 1 of 1

Stolz HZ60 Screw Cap Closing Instructions

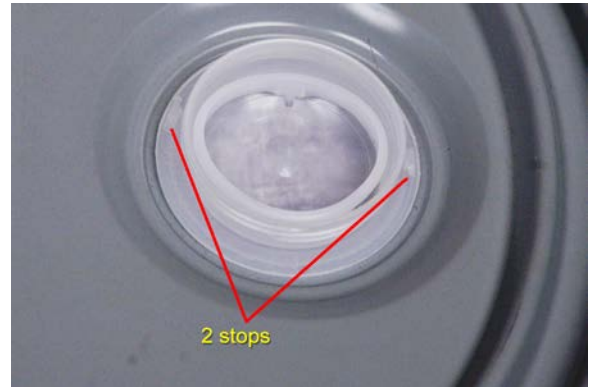
Step 1--Place the Stolz screw cap over the opening in the nozzle.



Step 2-- Gently rotate the cap clockwise until the threads of the cap smoothly engage the threads of the nozzle.



Note: Be sure the cap is being turned between the stops on the nozzle and does *not* ride on the top of the stops; if this occurs, the cap can be come cocked or mis-threaded



Step 3--Continue to rotate the screw cap clockwise. until the tab on the cap clicks past the stop on the nozzle. After this occurs, rotate the cap until it can no longer be torqued any tighter by hand.



Note: The printed instructions on the top of the screw cap read as follows:
Turn past click until tight



OFFKO (RU-1) LeverLock Ring Closing Instructions

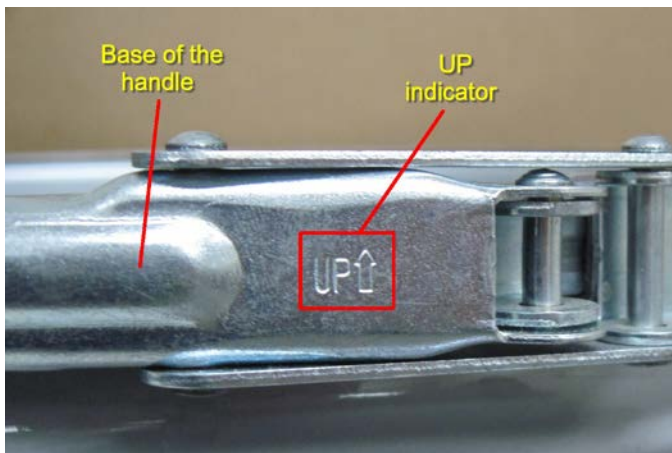
Document: QA-FM-L275 Date: 10/24/19 Rev: 2 Page: 1 of 2

Proper Application of the OFFKO (RU-1) LeverLock Ring

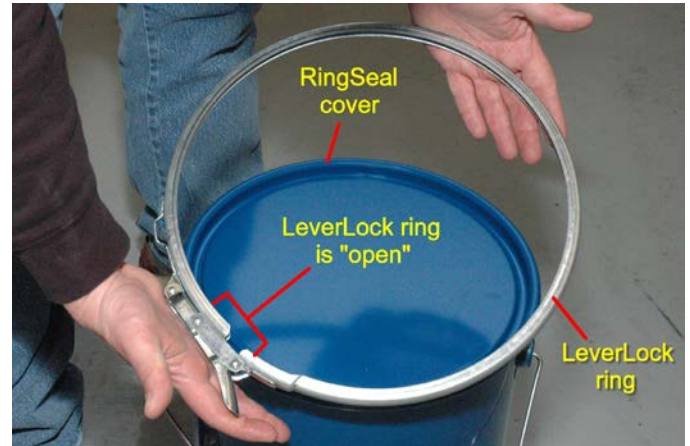
Step 1--Place the steel RingSeal cover on the pail. Press down along the edges and in the center of the cover to ensure that it is seated properly.



Step 2--Before placing the leverlock ring on the pail, it must be oriented correctly. There is an **Up indicator** w/ an arrow stamped into the base of the handle. Orient the ring w/ the arrow pointing **up**.



Step 3--Open the leverlock ring as wide as possible, then slip it over the pail. Be sure that the ring is placed on the pail in a manner that allows it to be closed by moving the lever **clockwise** onto the ring.



Step 4--Orient the lever on the ring to be opposite of the seam weld (180 degrees from the seam weld).

Step 5--Apply downward pressure to the cover and release the lever, allowing the ring to slide onto the cover/curl edge.

Note: The ring **must** encompass the cover/curl around the entire edge of the pail

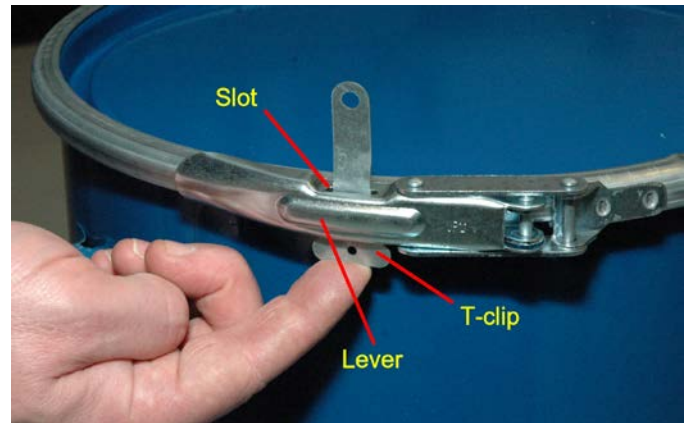
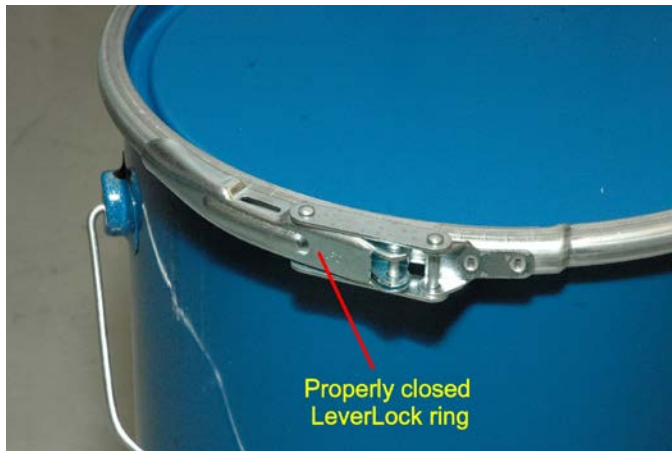
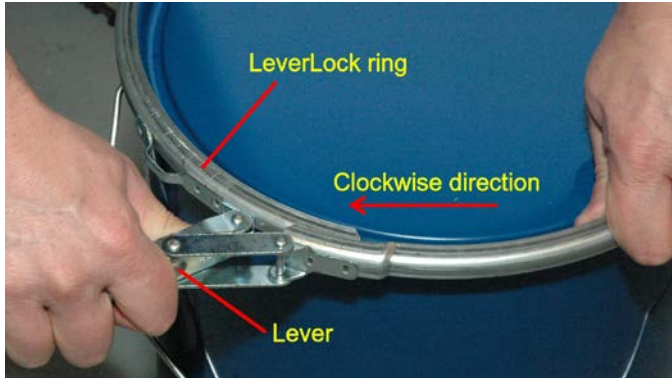




OFFKO (RU-1) LeverLock Ring Closing Instructions

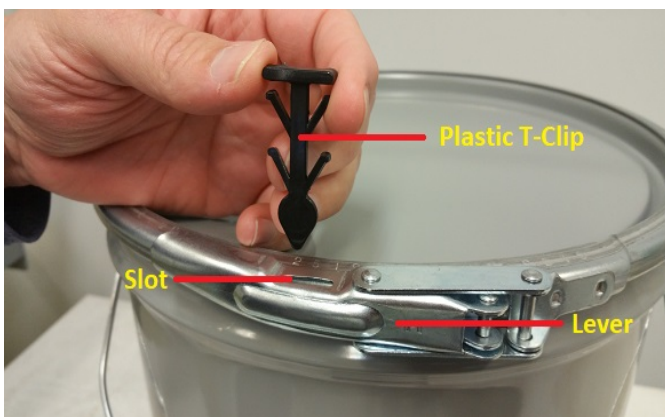
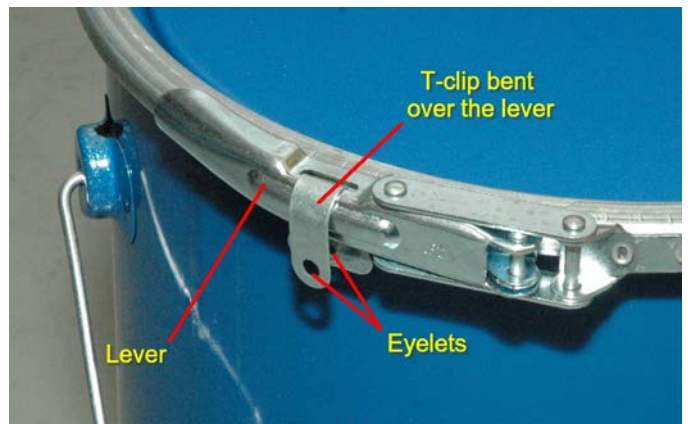
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Step 7--Close the ring clockwise by applying pressure to the lever until it collapses onto the ring.



If the ring is locked properly, it cannot be rotated or moved. If the ring slides, it is oversized.

Step 8--Insert a plastic or metal tamper-evident T-clip through the slot in the lever. This will hold the lever in place. The T-clip should also pass through the loop attached to the body of the ring.



Note: A locking mechanism can be inserted into the eyelet of the metal T-clip.