

# North Coast Container Corp. Closing Instructions

## 49 CFR / UN Requirements

North Coast Container Corp. certifies that the drums we supply meet the requirements of Title 49 Code of Federal Regulations, part 178, subparts L and M. If, after receiving our drums, you, as the filler and shipper alter the drums in anyway you release North Coast Container Corp. from its responsibilities as the drum manufacturer.

Specifically, North Coast Container Corp. installs all closure devices in a way that satisfies all performance test requirements.

To comply with parts 178.2, 178.601 (b), and to assist you as the shipper and our customer in fulfilling your responsibilities, we list the following pertinent information.

<b>Fitting Torque Requirements (Ft. –lbs.)</b>
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### C1 OCTAGONAL BASE CLOSURE SYSTEM

#### Recommended Minimum Torque (Steel)

<u>Gasket</u>	<u>3/4" (20 mm)</u>	<u>2" (50mm)</u>
Black Buna	12 ft. – lbs.	20 ft. – lbs.
White Buna	12 ft. – lbs.	20 ft. – lbs.
Butyl	12 ft. – lbs.	20 ft. – lbs.
White Neoprene	12 ft. – lbs.	20 ft. – lbs.
Polyethylene	15 ft. – lbs.	30 ft. – lbs.
Irradiated Poly	15 ft. – lbs.	30 ft. – lbs.
Viton	12 ft. – lbs.	20 ft. – lbs.
Hypalon	12 ft. – lbs.	20 ft. – lbs.
Teflon	20 ft. – lbs.	30 ft. – lbs.
Silicone	12 ft. – lbs.	20 ft. – lbs.
EPDM	12 ft. – lbs.	20 ft. – lbs.

#### Recommended Minimum Torque Nylon

<u>Gasket</u>	<u>3/4" (20 mm)</u>	<u>2" (50 mm)</u>
Rubber	8 ft. – lbs.	20 ft. – lbs.
Irradiated Poly	8 ft. – lbs.	20 ft. – lbs.

#### Recommended Minimum Torque Polypropylene

<u>Gasket</u>	<u>3/4" (20 mm)</u>	<u>2" (50 mm)</u>
Rubber	-----	10 ft – lbs.

#### Recommended Minimum Torque HDPE

<u>Gasket</u>	<u>3/4" (20 mm)</u>	<u>2" (50 mm)</u>
Rubber	4 ft. – lbs.	20 ft. – lbs.
Irradiated Poly	4 ft. – lbs.	20 ft. – lbs.

## C2 SERRATED BASE CLOSURE SYSTEM

### Recommended Minimum Torque (Steel)

<u>Gasket</u>	<u>3/4" (20 mm)</u>	<u>1 1/2" (38 mm)</u>	<u>2" (50 mm)</u>
Black Buna	15 ft. – lbs.	25 ft. – lbs. .	30 ft. – lbs.
White Buna	15 ft. – lbs.	NA	30 ft. – lbs.
Gray Neoprene	15 ft. – lbs.	NA	30 ft. – lbs.
Polyethylene	20 ft. – lbs.	40 ft. – lbs.	40 ft. – lbs.
Irradiated Poly	20 ft. – lbs.	40 ft. – lbs.	40 ft. – lbs.
Dapon	15 ft. – lbs.	NA	30 ft. – lbs.
EPT	15 ft. – lbs.	25 ft. – lbs.	30 ft. – lbs.
Viton	15 ft. – lbs.	NA	30 ft. – lbs.

### Recommended Minimum Torque (Plastic)

<u>Gasket</u>	<u>3/4" (20 mm)</u>	<u>2" (50 mm)</u>
Black Buna	9 ft. – lbs.	20 ft. – lbs.
White Buna	9 ft. – lbs.	20 ft. – lbs.
Gray Neoprene	9 ft. – lbs.	20 ft. – lbs.
Polyethylene	9 ft. – lbs.	20 ft. – lbs.
Irradiated Poly	9 ft. – lbs.	20 ft. – lbs.
Dapon	9 ft. – lbs.	20 ft. – lbs.
EPT	9 ft. – lbs.	20 ft. – lbs.
Viton	9 ft. – lbs.	20 ft. – lbs.

### Recommended Minimum Torque for Self Gasketing Plastic Plugs

<u>3/4" (20 mm)</u>	<u>2" (50 mm)</u>
5 ft. – lbs.	12 ft. – lbs.

**Most Important:** Open head cover gasket performance can be affected by time (age), temperature, exposure to chemicals and ozone. This could result in loss of cover gasket elasticity. Consequently, North Coast Container Corp. recommends checking the closing ring bolt for proper torque prior to shipping.

North Coast Container Corp. applies 5,000 lbs. of force to compress the gaskets, on open heads, prior to tightening the ring bolt. This is roughly equivalent to the pressure the bottom drum of seven high stack would see. We strongly recommend filling through the top opening rather than by removing the cover. If you find it necessary to remove the cover for any reason, then information regarding a head press machine can be obtained by contacting North Coast Container Corp. at (216) 441-6214.

### **Closing Instructions When Using A Head Press:**

- Install drum cover and closing ring on the drum.
- Clamp the head press onto the drum keeping aware of pinch points.
- Optimum tightening for a 12 gage closing ring with forged lugs is to jam the nut between the two lugs.

- If the nut cannot be jammed between the lugs then tighten the ring bolt to a minimum of 65 ft.-lbs. of torque then tighten the jam nut against the inside of the non-threaded lug.
- Tighten all plugs to the recommended torques.
- Note: By removing the cover from an open head drum, 49 CFR §173.22 and §178.2 make you responsible for that drum's performance and safety during transport.

**Closing Instructions Without A Head Press:**

- Install drum cover and closing ring on the drum.
- Optimum tightening for a 12 gage closing ring with a forged lugs is to jam the nut between the two lugs.
- If the nut cannot be jammed between the lugs then tighten the ring bolt to a minimum of 65 ft.-lbs. of torque then tighten the jam nut against the inside of the non-threaded lug.
- During the torquing process, tap the outside of the closing ring with a non-sparking mallet.
- Tighten all plugs to the recommended torques.
- Note: By removing the cover from an open head drum, 49 CFR §173.22 and §178.2 make you responsible for that drum's performance and safety during transport.

These closing instructions are valid for all drum specifications North Coast Container Corp. supplies you and are in effect until further notice.

**North Coast Container Corp.**