

ENGY RECOMMENDED STEEL DRUM CLOSING INSTRUCTIONS

This Procedure is for new steel drums manufactured by ENGY Southwest Container Products, Inc. only!

Notes: This document must be passed along with the container within your facility, or to whom the packaging is transferred, and ultimately to the personnel responsible for shipping and closure. For your drum to safely perform to its rated ability, these instructions must be strictly adhered to. Any other method of assembly will immediately invalidate the UN certification.

General

The recommended torques are only valid for the Technocraft Closure System. The conversion ft/lb – Kgm-Nm has been rounded off; the following conversion factors were used.

1 Kgm =10 Nm

1 ft/lb = 0.13825 Kgm

After tightening of plugs, torques will reduce over a period. Particularly plastic components are subject to stress relaxation resulting in reduction of torque. In general, no re-tightening of plugs will be required when the recommended torques have been applied.

For Quality Assurance purposes, it is recommended to calibrate pneumatic torque wrenches.

Rubber includes Buna, EPDM, Viton, etc. and P.E. stands for standard Polyethylene and P.I. stands for Poly Irradiated.

Technical support of an ENGY Quality Engineer is just a phone call / email away. Please free to communicate with us if necessary.

Over torqueing is just as bad as under torqueing. Use recommended value range:

RECOMMENDED CLOSING TORQUES

| Plug Type | Washer Type | ¾" Closure | | | 2" Closure | | |
|---------------|-------------|------------|-----------|-------------|------------|-----------|-------------|
| | | Ft/lbs | Kgm | Nm | Ft/lbs | Kgm | Nm |
| Steel Plugs | Rubber | 12 (+/- 1) | 1.5 – 1.8 | 14.7 - 17.7 | 20 (+/- 1) | 2.6 - 2.9 | 25.5 - 28.4 |
| | P.E. | 12 (+/- 1) | 1.5 – 1.8 | 14.7 – 17.7 | 20 (+/- 1) | 2.6 – 2.9 | 25.5 – 28.4 |
| Plastic Plugs | Rubber | 10 (+/- 1) | 1.2 – 1.5 | 11.8 – 14.7 | 22 (+/- 1) | 2.9 – 3.2 | 28.4 – 31.4 |
| | P.E. | 10 (+/- 1) | 1.2 – 1.5 | 11.8 – 14.7 | 16 (+/- 1) | 2.1 - 2.4 | 20.6 – 23.5 |

For more information, call: (281) 501.8963
 email: quality@engycontainers.com

www.engycontainers.com

See page two for closure instructions for **open head drums**

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CLOSURE INSTRUCTIONS FOR OPEN HEAD DRUMS

1. All removable head, UN 1A2, steel drums, 49 CFR 178.504(a)(2), that are supplied with bolt rings, bolts, gaskets and lids must be closed for shipment using only the components supplied in the design tests for the drum.
2. Place lid with gasket in place, as supplied, on the curl at the top of the drum body.
3. Place cover ring around the drumhead and curl. Verify cover and drum curl are pinched together and within the recess of ring profile. You are required to pound ring with non-sparking mallet or use head press to compress gasket.
 - a. For bolt ring – insert bolt into ring right lug. Thread jam nut into bolt, if needed, and then into threaded lug, and tighten bolt to specification. Hammer around circumference of ring while torque is applied to further seat head onto drum. Continue hammering on ring circumference and torque the bolt until the torque does not loosen when further hammering on the ring circumference is performed. Tighten jam nut against unthreaded lug. Ring ends must **not** touch when proper torque is applied. Drive bolt into the lug until the ends of the bolt ring are as follow: A gap of 3/16” – 1/8” is achieved.
4. If prescribed ring gap cannot be achieved, torque ring to 75 +/- 5 ft/lbs. Then ends of the ring should **not** be touching.

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