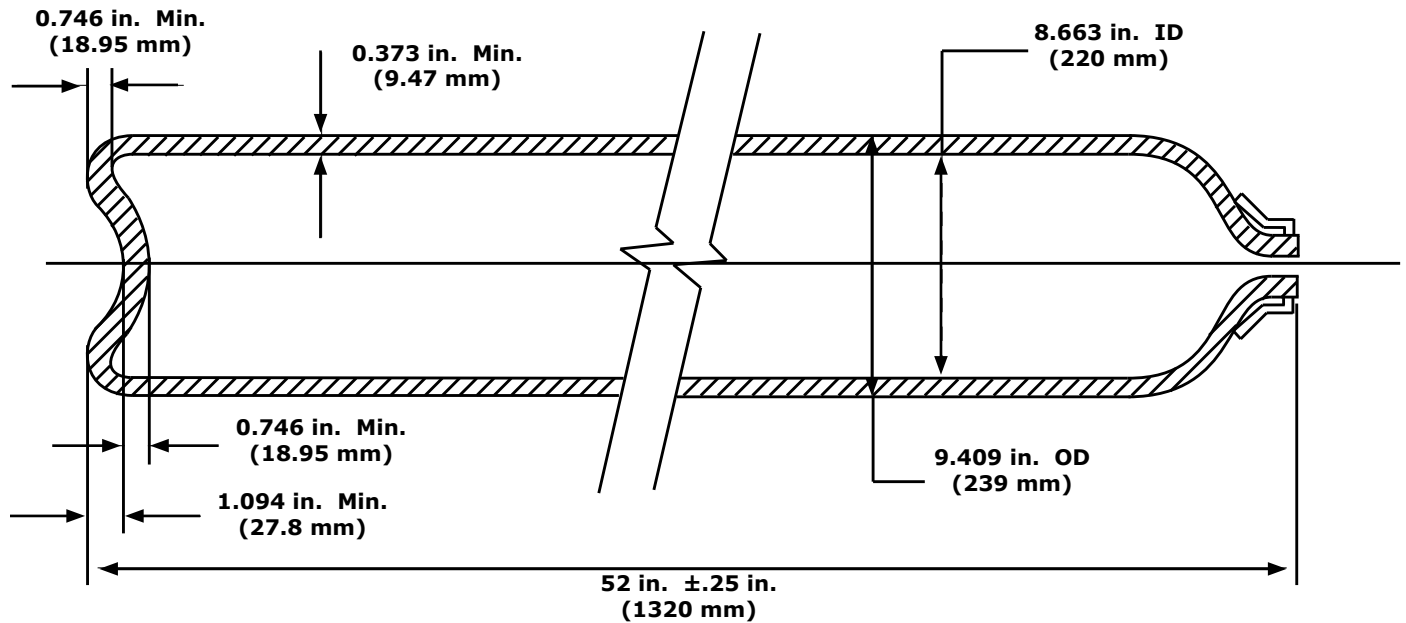


# UN/ISO-DOT Approved 6000 PSI (414 BAR) Steel Cylinder

Refillable Seamless Steel Cylinder for Gases Except CNG, Hydrogen, and Methane



| Specifications: ISO 9809-2: 2000  |   |
|---|---|
| 1. Service Condition:   |   |
| - Working Pressure:   | 6003 psi (414 bar)                                  |
| - Hydraulic Test Pressure:  | 9005 psi (621 bar)<br>(14.5 psi = 1 bar)            |
| 2. Material   |   |
| Cr-Mo-steel complying with the requirements of clause 6.2 of ISO 9809-2.  |   |
| 3. Manufacture:   |   |
| Hot billet extrusion followed by hot drawing  |   |
| 4. Heat Treatment: Quenched and Tempered  |   |
| - Austenitize:  | ~ 1650°F (889°C)                                    |
| - Quenchant:  | Water based polymer<br>(temperature ≤ 140°F / 60°C) |
| - Temper:   | ~ 1050°F (565°C)<br>(Min. 30 min. of temp)          |
| 5. Mechanical Properties: (at room temperature)   |   |
| - Tensile (R <sub>g</sub> ): 1100-1220 MPa (159.6-177 ksi)  |   |
| - Yield (R <sub>e</sub> ): ≥ 935 MPa (135.6 ksi)  |   |
| - Elong (A): ≥ 12% (on 5.65 √s°)  |   |
| - Hardness Test: Each end of every cylinder   |   |
| - Flattening test: Flatten to 10 x t <sub>m</sub> without cracks  |   |
| - Charpy Test (-50°C, Trans): ≥ 35 J/cm <sup>2</sup> (avg.)   |   |
| - UT Flaw Detection: Each cylinder per ISO 9809-2   |   |
| - Batch Burst Test: P <sub>b</sub> ≥ 14,413 psi (994 bar)   |   |
| 6. Thickness Calculations : (ISO 9809-2:2000)   |   |
| $a = 0.5 \times D \left( 1 - \sqrt{\frac{(10FR_e - \sqrt{3} Ph)}{(10FR_e)}} \right)$  |   |
| Where:  |   |
| Ph = Test Pressure (bar) = 518 bar (7511 psi)   |   |
| D = External diameter of container = ø241.4 mm Max  |   |
| F = Lesser of 0.65/ (Re/R <sub>g</sub> ) or 0.77; Re/R <sub>g</sub> ≤ 0.9   |   |
| = Lesser of 0.65/ 0.85 or 0.77 = 0.765 (for Re/R <sub>g</sub> = 0.85)   |   |
| $a = 0.5 \times 241.4 \left( 1 - \sqrt{\frac{(10 \times 0.765 \times 935 - \sqrt{3} \times 621)}{(10 \times 0.765 \times 935)}} \right) = 9.45 \text{ mm (0.372")}$ |   |
| Note: the guaranteed min thickness = 9.47 mm (0.373") exceeds calculated min thickness.   |   |

| Model - AC40060A |      |                             |      |                      |        |                           |        |                               |      |                                 |      |  |      |
|------------------|------|-----------------------------|------|----------------------|--------|---------------------------|--------|-------------------------------|------|---------------------------------|------|--|------|
| Approx. Length   |      | Approx. Min. Water Capacity |      | Approx. Volume (Air) |        | Approx. Volume (Nitrogen) |        | Approx. Weight (Cyl - Collar) |      | Approx. Weight (w/ Cap - Valve) |      | Approx. Weight (w/ Crash Collar - Valve) |      |
| in.              | mm.  | in <sup>3</sup>             | lt.  | cu. ft               | cu. m. | cu. ft.                   | cu. m. | lbs.                          | kg.  | lbs.                            | kg.  | lbs.                                     | kg.  |
| 52               | 1320 | 2641                        | 43.3 | 510.5                | 14.46  | 493.1                     | 13.96  | 200                           | 90.7 | 202                             | 91.6 | 204                                      | 92.5 |