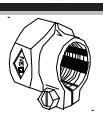
IMPORTANT NOTICE - READ CAREFULLY

Installation Instructions

Mac-Pak Compression Connects (-22, -33, -34, -44)



The A.Y. McDonald Mac-Pak compression system is a simple, convenient method of connection for pipe or tube size service materials (copper, brass, steel, or plastic).

The simple steps listed below will make your job easier and assure fast, safe and watertight connections:

1. Use a tube or pipe cutter to assure a square end. Make sure pipe is round. On copper tubing,use a rounding tool, if necessary. Surface should be clean and free of nicks.
2. **INSERT STIFFENERS MUST BE USED ON FLEXIBLE PLASTIC SERVICE TUBE OR PIPE.**
3. Stab tube or pipe through the nut and into the socket of the valve or fitting until it bottoms out (some fittings may or may not have a stop).
4. If the nut or socket appears too large or small, a check should be made to be sure you are using the correct fitting and pipe/tube.
5. Tighten the Mac-Pak nut onto the valve or fitting to the following minimum torques. Overtorquing nut by 10-20 ft.-lbs. will not affect connections.

1/2" size.....20 ft.-lbs.	3/4" size.....25 ft.-lbs.	1" size.....30 ft.-lbs.
1 1/4" size.....35 ft.-lbs.	1 1/2" size.....40 ft.-lbs.	2" & 2 1/2" sizes.....45 ft.-lbs.

6. Lock the tube or pipe into the nut by securely tightening the split clamp side screw (use a box end or socket wrench, not a screwdriver). For **soft** copper, PVC, polybutylene, and polyethylene tubing, the torques to which the clamp side screw should be tightened are as follows (NOTE CHANGE IN UNITS):

1/2" size.....70-80 in.-lbs.	3/4" size.....80-90 in.-lbs.	1" size.....90-100 in.-lbs.
1 1/4" size.....120-140 in.-lbs.	1 1/2" size.....160-180 in.-lbs.	2" & 2 1/2" sizes.....200-220 in.-lbs.

For **hard** copper tubing, brass and steel pipe, the torques to which the clamp side screw should be tightened to are as follows (NOTE CHANGE IN UNITS):

1/2" size.....70-80 in.-lbs.	3/4" size.....80-90 in.-lbs.	1" size.....65-80 in.-lbs.
1 1/4" size.....80-95 in.-lbs.	1 1/2" size.....160-180 in.-lbs.	2" & 2 1/2" sizes.....200-220 in.-lbs.

7. **PRESSURE TEST FOR LEAKS BEFORE BACKFILLING.**
8. **USE ONLY ON COLD WATER SERVICES.**

(OVER)

WARNING: It is unlawful in **CALIFORNIA & VERMONT (effective 1/1/2010); MARYLAND (effective 1/1/2012); LOUISIANA (effective 1/1/2013) and the UNITED STATES OF AMERICA (effective 1/4/2014)** to use any product in the installation or repair of any public water system or any plumbing in a facility or system that provides water for human consumption if the wetted surface area of the product has a weighted average lead content greater than 0.25%. This prohibition does not extend to service saddles used in California, Louisiana or under USA Public Law 111-380.

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A.Y. McDonald waterworks products are designed for reliable service.
Like all brass products, however, they can be damaged by improper handling and use.

CAUTIONS

1. Protect threads. Avoid loose fitting wrenches. Do not drop or impact.
2. Use extra care with high water pressures (over 100 PSIG) and pipe or tubing over 1". Consult factory if desired.
3. Inspect and test all joints, valves and fittings before backfilling.
4. Backfill carefully so as to avoid damage to the service line and connections. Looping of the service lines is recommended to minimize strain.
5. DO NOT use Vaseline®, plumber's grease, or any other petroleum based product on seals or o-rings

A.Y. McDonald Mac-Pak Coding System

All A.Y. McDonald Mac-Pak fittings are coded to identify which type of service material they are designed to fit. Lettering is on the Mac-Pak nut.

- CTS..... Copper tube, soft or hard(Type K or L)
- CTS..... PE tube per ASTM D2737 SDR 9 ONLY
- CTS..... PB tube per ASTM D2666 SDR 9 Class 250 ONLY
- PVC..... PVC pipe per ASTM D1785
- IP & PVC ..... Steel pipe
- PVC..... Brass pipe
- *PEP-7.....PE pipe per ASTM D2239 SIDR 7 ONLY (Partial Range)
- *PEP-7.....PB pipe per ASTM D2662 SIDR 7 Class 250 ONLY (Partial Range)
- PEP-9.....PE pipe per ASTM D2239 SIDR 9 ONLY - Established 2017

PEP fittings only work for part of the range of the standard.
Reference A. Y. McDonald O.D. charts dated 2007 or later for more information.

* Was marked IPS until 2/02 & PEP Until 2017

Damage caused by improper use and/or handling will void our warranty.

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