EX-4 Expanding Tube Plug

Product Name:
EX-4 Expanding Tube Plug

Part Number:
Refer to Conco Standard Size Chart for EX-4 Expanding Tube Plugs

Application:
For temporary and/or permanent plugging of condenser and heat exchanger tubes.

Description:
• Available for 5/8” O.D. through 1-1/4” O.D. tubes.
• Tested under pressure and vibration to 150 PSI and temperature to 200° F.
• Two each single chloroprene cylinders, grade K2242-CF, ASTM-BC-412 at 45+/\- shore(s) durometer hardness, expands to seal tube.
• Equal size washers allow plug to be positioned in tube beyond flush of tubesheet. This allows for leak checking using varied type methods.

Storage Information:
Store in cool, dry area away from heat and sunlight. Can be kept in sealed plastic bags. Long, undeterminable shelf life.

Auxiliary Equipment Required:
Deep well socket wrench or open end box wrench.

Determination of Quantity:
Two for each tube to be plugged (one for each end).

Ordering Information:
Contact: Conco Services Corp.
530 Jones St.
Verona, PA 15147 USA
Telephone: 1-800-345-3476
Fax: 412-826-8255
E-mail: info@conco.net
Attn: Inside Sales

Example Order:
12 EX-4 Expanding Tube Plugs
for 7/8” O.D. x 22 BWG tubes
Bronze

Part No. X4B78

Availability:
Contact your Conco representative.

Installation Instructions:
• Clean and wipe dry the tube end to be plugged.
• Insert plug into tube beyond flush of tubesheet
• Hand tighten nut finger tight, using open end of box wrench, turn nut 2-3 complete revolutions.
• The end of the bolt is slotted. Use a screwdriver to hold the bolt in place while tightening the nut with a 1/2” (13 mm) box wrench. Tighten to desired torque.

1 See detailed EX-4 Installations on last page
## CONCO STANDARD SIZE CHART
WITH PART NUMBERS FOR EX-4 EXPANDING PLUGS

<table>
<thead>
<tr>
<th>O.D.</th>
<th>BWG</th>
<th>Brass</th>
<th>Bronze</th>
<th>304-Stainless</th>
<th>316-Stainless</th>
<th>Titanium</th>
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</thead>
<tbody>
<tr>
<td>5/8&quot;</td>
<td>16-22</td>
<td>X4B58</td>
<td>X4Z58</td>
<td>X4Q458</td>
<td>X4Q658</td>
<td>X4T58</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>16-22</td>
<td>X4B34</td>
<td>X4Z34</td>
<td>X4Q434</td>
<td>X4Q634</td>
<td>X4T34</td>
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<tr>
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<td>X4B78</td>
<td>X4Z78</td>
<td>X4Q478</td>
<td>X4Q678</td>
<td>X4T78</td>
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<td>1&quot;</td>
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<td>X4B11</td>
<td>X4Z11</td>
<td>X4Q411</td>
<td>X4Q611</td>
<td>X4T11</td>
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<tr>
<td>1-1/8&quot;</td>
<td>16-22</td>
<td>X4B98</td>
<td>X4Z98</td>
<td>X4Q498</td>
<td>X4Q698</td>
<td>X4T98</td>
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<td>X4Z54</td>
<td>X4Q454</td>
<td>X4Q654</td>
<td>X4T54</td>
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</table>

The EX-4 can be placed at any point within the tube. Durable DuPont Chloroprene Cylinder.
Installation steps for Conco EX-4 (expanding) tube plugs

Make sure the tube is clean and dry before attempting to install the plug.
If the tube is dirty, use a bottle brush or a piece of scouring pad to remove the fouling, and then
dry the tube. If there is residual water lying in the tube, use a piece of paper towel, foam rubber or
rag to “dam up” the water before trying to dry the tube I.D. Leaving the piece of paper towel, foam
rubber or rag in the tube will not cause any future problems. Once the end of the tube is clean
and dry, you are ready to proceed to the next step.

Tighten the nut, to manually expand the plug, until the plug fits snugly in the tube.
A snug fit means that the plug needs to be pushed into the tube because it’s now slightly larger
than the tube. A 7/16” box wrench will help tighten the nut. To determine whether you have
expanded the plug enough, try sticking the first section into the tube… if the plug slides in easily,
expand it some more. It is important to make sure the plug (EX4 only) fits snugly into the tube to
keep it from being sucked down into the tube by the vacuum leak and to prevent the plug from
turning in the tube during the final tightening step.

Push the plug into the tube until the end of the bolt is even with the end of the tube or
slightly past the end (outlet end).
If the plug has been sufficiently expanded, it should almost be a tight fit and require some effort to
push it into the tube. If it goes in too easily, continue to expand the plug until you have that snug
fit.

Using a 7/16” socket, tighten the nut using three complete revolutions (turns) of the
wrench, but Do Not Tighten Past This Point! You will be able to “feel” the plug tighten up. In
this case, more is not better! If the plug turns in the tube, then remove it and go back to step one.
If the tube is clean and dry, the rubber seals will “bite” into the tube and the tightening process will
be easily accomplished. Three turns of the wrench is all that will be needed for the plug to be
correctly installed. If the plug still turns in the tube… verify that you are using the correct size plug
for that tube.

Summary – clean and dry is the single most important step in the whole installation process.
Expand the tube until it is snug when you push it into the tube. Push the plug in until it is just past
the end of the tube and tighten with 3 turns of a 7/16” wrench.

**Double nutting can be done to further insure that the plugs stay tight in the tubes, but it is not
required. Simply install a second brass, stainless or titanium nut and tighten… do not over-
tighten. If the plug does not “feel” tight, remove it and start over.