

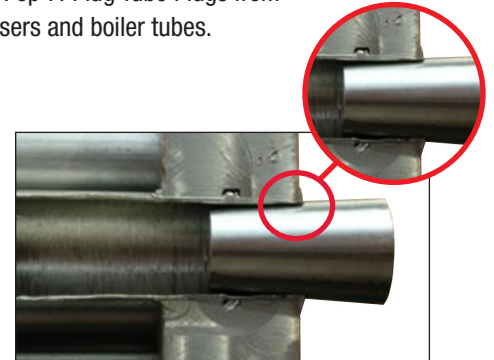
## Don't Compromise Onsite Safety & Reliability by Using Friction Fit Tapered Plugs

### Pop-A-Plug® Tube Plugs - ASME PCC-2 Compliant Mechanical Plugging Method

Friction fit tapered plugs can be expelled during shell side pressure testing or from tubes that have not been properly vented prior to plugging, potentially resulting in serious safety concerns for surrounding personnel and equipment. Pop-A-Plug Tube Plugs from EST Group offer a mechanical plugging solution for leaking and/or degraded heat exchangers, condensers and boiler tubes.

#### Friction Fit Tapered Plugs Risks & Dangers

- Do not conform to ASME PCC-2-2015 recommended tube plugging repair methods in applications above 200 PsiG (14 BarG) / 400°F (205°C)
- Lack of pressure rating resulting in unknown safety factor
- Can eject when system is pressurized and become a lethal projectile
- Can overstress and/or damage tube joints and crack tubesheets due to uncontrolled installation force
- Can damage expensive epoxy coated tubesheets resulting in costly repairs
- May require welding in higher pressure services/applications
- Welded installations may make re-tubing extremely difficult and expensive

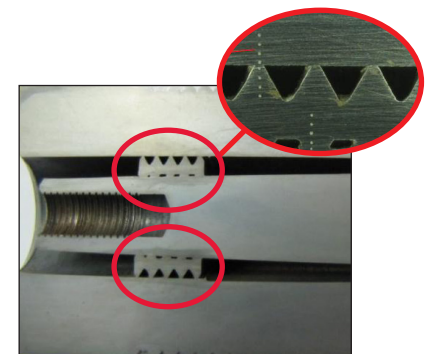


Limited contact with tube / tubesheet

Mechanical Plugs should be considered in situations where friction fit tapered plugs are not appropriate for the pressure and/or temperature of service or other mechanical/environmental conditions.\*

#### Pop-A-Plug Tube Plug Advantages

- Conform to ASME PCC-2-2015 recommended tube plugging repair methods
- **Safe** - pressure rated up to 7000 PsiG (483 BarG) - tested to 1.5 safety ratio
- **Reliable** - provides a helium leak-tight seal
- **Cost-Effective** - permanent solution engineered for optimal performance throughout the life cycle of equipment
- **Efficient** - Simple hydraulic installation significantly reduces turnaround times
- Controlled and repeatable installation force protects surrounding tubes and adjacent ligaments from damage
- Accommodates through the tube plugging applications
- Plug and tube materials always matched to prevent galvanic interaction
- No welding required
- Full material traceability - all plugs laser etched with lot number
- Compliant with QA Systems including ANSI N45.2, NQA-1, 10 CFR 50 Appx. B and 10 CFR 21
- Manufactured in an ISO 9001:2015 registered facility



Multiple points of contact with tube / tubesheet

\* Inspection and Repair of Shell and Tube Heat Exchangers, The American Society of Mechanical Engineers (ASME) PCC-2-2015, Article 3.12, p.133-135.