

## POP-A-PLUG® QADOC5 CERTIFICATION

Thursday, March 26, 2015

To whom it may concern:

For the Pop-A-Plug® System (P2 and CPI Plugs) EST Group offers an optional QADOC5 certification package.

All EST Group products are manufactured under the ISO-9001 Quality Management System. However the EST Group QADOC5 certification package provides additional valuable information specific to each Pop-A-Plug manufactured. This can be summarized as follows:

The **QADOC5** certification package is in accordance with **EN 10204 3.1** for:

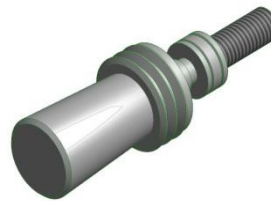
1. The **materials of construction** used for the Pop-A-Plug Pin and Ring. The certification provides the heat and lot numbers for the raw materials used for manufacturing. The certification is traceable to the Pop-A-Plugs by means of:
  - 1.1. The S.O.# on the box label if manufactured prior to March 1, 2015.
  - 1.2. The Lot # on the box label and marked on each pin if manufactured since March 1, 2015 (see fig. 1.1).
2. The **performance testing** of the Pop-A-Plugs as supplied is conducted:
  - 2.1. In both the **smallest** and **largest** inside diameter as applicable for the Pop-A-Plug size in question.
  - 2.2. Testing is performed based on the "**worst case scenario**" of the tube side pressure being greater as the shell side pressure (in the direction of the pin's small diameter), effectively trying to push the pin out of the ring. This confirms the Pop-A-Plug is "**pressure direction independent**" (see fig. 1.2).
  - 2.3. A **minimum safety ratio of 1.5** in place where the minimum acceptable performance test results must be at least 1.5 x the specified maximum pressure as applicable for the Pop-A-Plug in question.

**Example:** A Pop-A-Plug rated for 6000 PsiG (414 BarG) must pass a minimum performance test value of 9000 PsiG (621 BarG).

Submitted by,

*Florian Kuchera*

Florian Kuchera  
Quality Manager



**CURTISS-WRIGHT**

**QADOC5 Manufacturers Certificate of Compliance EN 10204 3.1**

We certify that the listed equipment or service and required EN10204 3.1 documentation for same meet the requirements of the purchase order and applicable specifications.

Customer: EST Group - B.V. EST Order: XXX  
EST BV PO: XXX EST BV Order: XXX

Manufacturer: EST Group, Hatfield, PA, USA  
Supplier: EST Group B.V.  
Hoon 312a  
2404 HL Alphen aan den Rijn  
The Netherlands

Description of Equipment or Service (including specific identification):

Part Number	Description	Maximum Temperature	Maximum Pressure
P2-1005	Pop-A-Plug CPI/Perna K1, 316 Stainless, 700(117 BarG)	400°F	4500PsiG
Lot Number	Quality Inspection	Performance Testing	Pin Heat
2175814	Passed	Passed	743790

These products were manufactured, sampled, tested and inspected in accordance with EST Group's Quality Assurance Program Rev. 15 certified and registered to ISO 9001:2008. This certifies that all items furnished in the shipment are in full compliance with all purchase order and specification requirements including all codes, standards, test requirements and Quality Assurance requirements invoked therein.

Scott Eberle  
Manager, Quality Assurance

12-01-14  
Date (Month/Day/Year)

**SAMPLE COPY**

**CURTISS-WRIGHT**  
EST Group



Fig. 1.1 Shows marking on pin since March 1, 2015

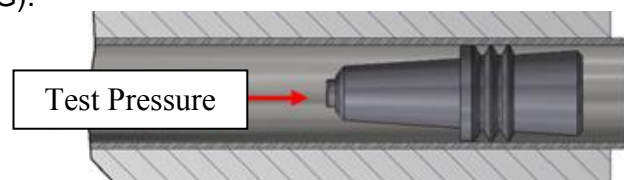


Fig. 1.2 Performance Test Direction