

OPERATING PROCEDURES FOR SOCKET WELD SQ2 TEST PLUGS

WARNINGS!

- **PRESSURE TESTING IS INHERENTLY DANGEROUS. STRICT ADHERENCE TO THESE OPERATING INSTRUCTIONS, AND INDUSTRY SAFETY PRACTICES, COULD PREVENT INJURY TO PERSONNEL.**
- **ALL PERSONNEL MUST BE CLEAR OF TEST PLUG WHEN PRESSURE TESTING.**
- **FOR SAFETY, AN INCOMPRESSIBLE LIQUID SUCH AS WATER SHOULD BE USED AS THE TEST MEDIUM. ALL RESIDUAL AIR OR GAS IS TO BE EVACUATED FROM THE PIPE PRIOR TO TESTING.**

PRIOR TO INSTALLATION: The surface between the cone and the gripper must be free of friction producing dirt. Verify proper operation of the test plug by hand tightening the hex nut so that the grippers move freely up the tapered cone surface. Threads should be kept well lubricated with antisieze. Inspect threads and apply antisieze if necessary before testing.

WARNING! IF THE NUT CANNOT BE EASILY ADVANCED TO ALLOW FULL GRIPPER EXPANSION, DO NOT USE THIS PLUG FOR TESTING AND CONTACT THE FACTORY.

1. Position the test plug in the clean, lubricant free fitting end as far as possible.
2. Center the plug within the fitting ID while hand tightening the hex nut. Tighten hex nut until the test plug has gripped the fitting ID.
3. Install the pressure source to the plug, tighten until leak tight. For plugs not being used to pressurize, install a pipe cap, rated to or above plug rating leak tight.
4. Tighten the hex nut to the installation torque specified in Table 1. Use of a calibrated torque wrench is recommended.

WARNING! FAILURE TO APPLY THE SPECIFIED INSTALLATION TORQUE COULD RESULT IN LEAKAGE AND PLUG EJECTION.

TABLE 1. SOCKET WELD SQ2 PLUG INSTALLATION DATA			
PART NUMBER	NOMINAL PLUG SIZE	INSTALLATION TORQUE (ft-lbs / kg-m)	WORKING PRESSURE (psi / Bar)
SQS-0086-U	1/2	12 / 1.6	5000 / 343
SQS-0107-U	3/4	20 / 3	5000 / 343
SQS-0133-U	1"	20 / 3	4800 / 329
SQS-0168-U	1-1/4	75 / 10	4000 / 274
SQS-0192-U	1-1/2	75 / 10	3600 / 247
SQS-0241-U	2"	75 / 10	3500 / 240
SQS-0291-U	2-1/2"	100 / 14	3300 / 227
SQS-0354-U	3"	250 / 35	2900 / 199
SQS-0404-U	3-1/2"	300 / 42	2700 / 185
SQS-0455-U	4"	300 / 42	2500 / 172
SQS-0562-U	5"	350 / 48	2300 / 158
SQS-0669-U	6"	350 / 48	2300 / 158

5. Slowly introduce the test pressure. The test pressure must never exceed Maximum test pressure listed in Table 1.
6. As pressure increases, movement of the shaft as large as .10" may be detected. This movement indicates additional squeeze of the seal and expansion of the grippers and is normal for this plug design. Should movement of the shaft or plug exceed 0.10" (2.54mm), release **ALL** pressure immediately, remove plug, examine, reinstall and begin testing in accordance with this operating



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procedure. Should movement of the shaft or plug during the test still exceed 0.10" (2.54mm), contact EST Customer Service for technical assistance.

WARNING! NEVER STAND IN THE POSSIBLE PATH OF THE TEST PLUG

7. At the conclusion of the test, release **ALL** pressure, loosen the hex nut, remove and inspect plug. Replace any worn or damaged plug components before attempting further testing. Contact EST Customer Service for replacement part information.

AFTER USE / STORAGE

Prior to storing, disassemble and dry all parts of the plug and lubricate the shaft threads and brass anti-gall washers with antiseize and then reassemble. Store these instructions with the plug.

QUESTIONS? Contact EST Group Customer Service at any of the following locations with questions.

In USA and Canada: tel: 800-355-7044, fax: 215-721-1101, e-mail: est-info@curtisswright.com

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EST Group is a business unit of Curtiss-Wright Flow Control Company. **EST Group** provides a complete range of repair products, services and replacement parts covering the life cycle of tubular heat exchangers and condensers; additionally EST Group provides products and services to facilitate pressure testing pipe, piping systems, pressure vessels and their components. Visit EST Group on the Internet at <http://estgroup.cwfc.com>.



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