INFRAPIPE SOLUTIONS LTD.

WEHOGAS
SQUEEZE OFF PROCEDURE

TECHNICAL BULLETIN

This technical bulletin describes general procedures to reduce the flow of gas through a Wehogas pipe in an emergency and in the maintenance and operation, or both, of a gas distribution system.

Reference Documents:

ASTM D2513 Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings

ASTM F1041 Standard Guide for Squeeze-Off of Polyolefin Gas Pressure Pipe and Tubing

ASTM F1563 Standard Specification for Tools to Squeeze-off Polyethylene (PE) Gas Pipe or Tubing

ASTM F1734 Standard Practice for Qualification of a Combination of Squeeze Tool, Pipe, and Squeeze-Off Procedures to Avoid Long-Term Damage in Polyethylene (PE) Gas Pipe

Apparatus:

Hydraulic or mechanical squeeze-off tools for polyolefin gas pressure pipe and tubing shall conform to the requirements of ASTM F1563.

Hydraulic Squeeze-off tool
Footage Tools Inc.

Mechanical Squeeze-off tool
Footage Tools Inc.

Safety Precautions:

Operation instructions for mechanical or hydraulic devices used for the squeeze-off procedure vary from manufacturer to manufacturer. The operator shall familiarize himself with the tool and its proper application before the procedure is to begin.

Pressure control situations requiring squeeze-off may involve working in the vicinity of escaping gas. Consider the possibility and potential hazard of static electricity and observe safety precautions.

Squeeze Procedure:

Inspect the pipe for surface damage and remove any dirt from squeeze zone.

Center the squeeze-off tool on and square to the pipe at least three pipe diameters or 12 in. (305 mm), whichever is greater, from any fusion joint (1.5 diameters for butt-fusion joint) or mechanical fitting.

Ground the tool to prevent static electric discharge.

The samples are to be squeezed-off at a location that is rotated 90° from the location of the minimum wall thickness

Select and position the stops based on the pipe diameter and SDR.

After tool is properly centered, compress the pipe at a maximum rate of 2 in. per min. This is particularly helpful when pipe becomes stiff in cold weather.

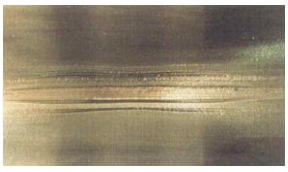
Do not over-squeeze the pipe. The squeeze-off tool should contain stops that limit the squeeze to 70% of twice the maximum wall thickness as described in ASTM F1563.

Release Procedures:

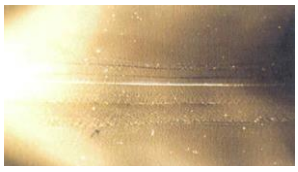
Remove the squeeze-off tool in a controlled manner.

A release rate of 0.5 in. per min or less should be maintained to prevent pipe material damage.

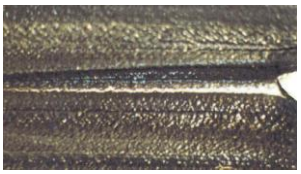
After the squeeze-off tool has been removed, inspect the squeezed section for any damage. Damage is characterized as whitening, wrinkling or cracking of the pipe wall.



1. *View at the inside - typical wrinkling*



2. *View at the inside - stress whitening*



3. *View at inside – voids opened into crack, along with stress whitening*

If rerounding is preformed, reround the pipe by rotating the squeeze-off tool 90° and applying enough force to round the pipe or by using a special tool designed for this purpose.

Do not squeeze in the same place more than once.

Images Source (1, 2 and 3): *Adjunct to F1734 Practice for Qualification of a Combination of Squeeze Tool, Pipe, and Squeeze-Off Procedures to Avoid Long-Term Damage in Polyethylene (PE) Gas Pipe*

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