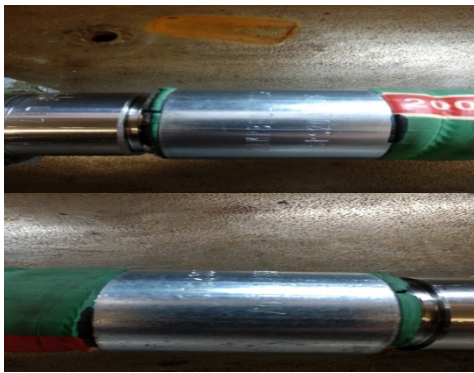


# Hydrostatic Test Report

Date: 12-18-2019, Prepared By: Randi Kremer

<b>Hose</b>	2" Gates 45HW "Gatron" XLPE Tube Chemical hose WP – 200psi	<b>Compression Ratio</b>	21%
<b>Fitting &amp; Retention</b>	CJMS-8 Modified for prototype	<b>Highest Pressure</b>	1276 psi
<b>End 1 Crimp Diameter &amp; Wall Thickness</b>	.28 hose wall avg. SPS200240S, set 2.375 from back of ferrule groove, CD = $\Phi$ 2.580	<b>Test Temperature</b>	65 F
<b>End 2 Crimp Diameter &amp; Wall Thickness</b>	Same as above	<b>Failure Mode</b>	Hose burst near the nose end of the shank at the first connection



E1 & E2 prior to pressurization



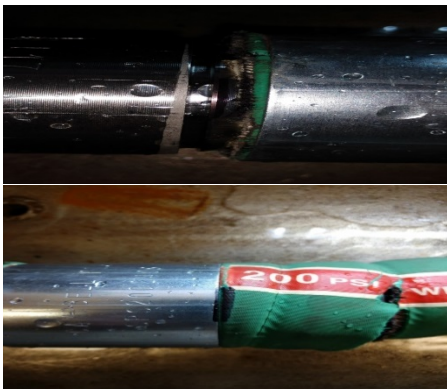
Assembly in tester



Hose burst near E1



Highest peak pressure readout



End 1 movement & stretch



End 2 stretch & movement

**Notes:** This test was to test a prototype that has a serration pattern with only one larger serration at the very front nose end of the fitting; all other serrations are at a smaller diameter. For this prototype, I flattened out the middle serration of a standard CJMS-8 ChemJoint stem, machining it down to the same diameter as the smaller serrations. I established the location of the sleeve end slightly behind the large bump at the shanks end, wanting to get behind that bump with the fully compressed sleeve, so it creates a step-lock at that larger serration. I believe this design will work well for both bands and a short sleeve.

**Test:** GFS-8x3 ends were threaded onto the CJMS-8 ends, pressurization was slow and steady to allow for keen observations. Stretch and movement was very minimal throughout the test with the first sign of any stretch at the first connection at 600 psi of only .02". Movement of each end was minimal but first seen at 1100 psi at E2, measuring .02", which grew to .06 at 1200 and .10" final. E1 final movement was less, at .08". The hose burst near the first connection and when I fold the hose back, it is near the fittings end.

**Conclusion:** I'm very pleased with the results and I believe this design concept has a lot of merit. Considering that there are 21 historical 2" chemical hose tests using machined serrations with ferrules that ended in ejection or an ejection/leak with 19 failing at a lower pressure than 1276 psi. This connection design is showing great promise.