



BALLOONING ARMORED CHOKE HOSE

Prepared by: Paul J. Kovach, P.E., Principal

Background

A brand new 3-inch armored choke hose was deemed to be “ballooning” when being pressure tested under the floodlights at a drilling rig. This hose was sent to Stress Engineering Services, Inc. for determination of the cause of the ballooning. Stress Engineering pressure tested this hose up to 10,000 psi with no signs of problems.

Assignment

The client requested that this hose be tested to failure so Stress Engineering pressurized this hose to over 17,000 psi and the 5,000 psi rated API end fittings leaked but the hose seemed unaffected.

Findings

Stress Engineering then performed a destructive examination of the hose construction and determined that the manufacturer had to splice the outer wrap material and did this by overlapping the new material layer over the initial material for a distance of just over 6 inches resulting in a small bulge that apparently lead to the suspicion of ballooning under pressure.



Note the bulge and the blue markings added in the field to identify the suspected ballooning region.