

# PIPE STRESS ANALYSIS HAVING PYRAMID-SHAPE PITTING CORROSION DUE TO VARIATIONS OF CORROSION DEPTH

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## Abstract

Corrosion who attacked a pipeline will be different shapes, sizes and depths. Differences in the shape and size of corrosion or defects that occur in the pipeline will affect the condition of the pipe. In this final project, carried out the analysis on an exposed pipe corrosion to determine the effect of the interaction between corrosion to the stress on the pipe and get the maximum distance between corrosion up to no interaction. For a square pyramid-shaped corrosion with a depth of 1.9 mm in the longitudinal direction is as far as 77.78 mm while the circumferential direction as far as 61.87 mm. To a depth of 4.75 mm in the longitudinal direction as far as 110.99 mm while the circumferential direction as far as 113.08 mm. As for the depth of 7.6 mm, in the longitudinal direction as far as 129.20 mm, and in the circumferential direction as far as 114.84 mm. Then for rectangular pyramid-shaped corrosion with a depth of 1.9 mm in the longitudinal direction is 80 mm, whereas the circumferential direction is 46.52 mm. To a depth of 4.75 mm in the longitudinal direction is as far as 129.98 mm while in the circumferential direction is as far as 63.87 mm. And to a depth of 7.6 mm in the longitudinal direction is as far as 137.5 mm while the circumferential direction is as far as 66.43 mm.

**Key word:** Interaction Between Corrosion, Corrosion Depth, Distance Between Corrosion, *Longitudinal, Circumferential.*