

Fact Sheet 2: Facts of pipe damages

Pipe damage types:

Geometrical Defects	smaller change in wall thickness than the allowable wall thickness tolerance and result in stress accumulation and concentration.
Defects resulting in metal loss	greater change in wall thickness than the allowable wall thickness tolerance and result in stress concentration.
Planner discontinuities	two dimensions are significantly greater than the third one
Change in metal	do not cause change (or the change does not exceed the allowable limit) in dimension or shape of pipe geometry but they result in disadvantageous change in the material structure and by this way in material characteristics.

Types of pipe damages:



Geometrical defects: The geometrical defects include pipe buckles, ovality, wrinkles, ruck, knob, rolling imperfection, tube expansion, and joint imperfection;

Metal loss defects: Metal loss includes the scar, corrosion, abrasion, grinding off, rupture, and leak;

Planner discontinuities: Discontinuities include cracks, lamination.



Change in metal: Changes in metal includes aging effect, and arc effects, or material changes with time.

Consequences of pipe damages: Pipe damages may result in leak of fluid/gas from the pipes, that may induce loss of lives, properties, and even endanger the environments.