Abstract:

High-strain linepipes provide excellent strain capacity to withstand axial compression and bending deformation. Assuming the outside diameter, the wall thickness and the design factor of the linepipe as 762 mm, 15.6 mm, and 0.4, respectively, critical compressive strain of the X80-grade linepipe can be estimated to be 2.0% which is approximately 1.5 times larger than that of a conventional X80-grade pipe. The excellent strain capacity enables us to reduce construction costs and ensure integrity of buried pipelines in seismic areas and cold regions.

1. Introduction

(**Table 1**).

3.2 Strain Capacity to Withstand Bending

[illegible] [10]. [illegible] 2 [illegible]

[illegible] A [illegible] 65 [illegible] [10]. [illegible] [10]. [illegible]:

$$\varepsilon = A\left(\frac{\;}{D}\right) \quad (7)$$

[illegible], *A* [illegible] *m* [illegible].

Figure 3 [illegible] *D*/*t* [illegible] 40 [illegible] 70. [illegible] C [illegible]. A [illegible] *D*/*t* [illegible].

4. Strain-Based