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عنوان مقاله:

Fracture Mechanisms of the Pipes used in Petroleum and Gas Industries

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خلاصه مقاله:

In the present work, the fracture mechanisms of weldments after Electric Resistance welding (ERW) were investigated. Two different steels that normally are used for pipe production were selected. The first one was a Ti-added ultra low carbon (ULC) steel, so called interstitial free (IF) steel, whereas the other was a low carbon steel. Detailed microstructural analyses were performed using scanning electron microscopy (SEM). The results show that the present of TiO2 in the weldments can act as a nucleation site for crack initiation in case of Ti-IF steel. The hardness profile across the weldments indicates that the changes in hardness are much more pronounced in case of low carbon steel though both have the same trend.

کلمات کلیدی:

Pipe Failures , Electric resistance welding , Inclusions

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