

## عنوان مقاله:

Prediction of microstructure and mechanical properties of X70 pipeline steel welded joint via hardness mapping

## محل انتشار:

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## خلاصه مقاله:

The aim of this work is to study the effects of preheating and type of electrodes on microstructure and mechanical behaviors of X70 pipeline steel welded joint. The results indicated an accordance among the hardness measurements, the microstructure and the tensile strength. It is also found that hardness mapping detected coarse and fine grain subzones in the heat affected zone which were not identified by optical micrographs. The impact test showed that the non-preheated sample, welded by cellulosic E8010, had the minimum value of toughness which was due to the hydrogen assistance cracking. The fractography results revealed that the size and uniformity of strengthening phases (Ti,V,Nb) (C,N) affected mechanical properties of welded joints.

## کلمات کلیدی:

Hardness map, pipeline, impact energy, tensile testing, microstructure

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/800250>

