

عنوان مقاله:

effect of wire chemical composition on microstructure and mechanical properties of submerged arc-welded API-X70 weld metal

محل انتشار:

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خلاصه مقاله:

the aim of this research is to investigate the effect of increasing manganese Mn content with or without presence of chromium Cr and molybdenum Mo on microstructure and mechanical properties of API-X70 weld metal five different welding wires containing different amount of Mn Cr and Mo were selected submerged arc -welding SAW process was used at practical condition for spiral gas transmission pipes . the material was 19.8 mm thick HSLA API-X70 pipe line steel microstructural examination results show increase of both the amount and fineness of acicular ferrite and decrease of grain boundary ferrite with increasing of Mn ,Cr and Mo contents in weld metal . mechanical testing results indicate that by increasing Mn content up to 1.66 %wt,yield stress tensile strength hardness and toughness of .weld metal are improved

کلمات کلیدی:

SAW,X70 steel ,manganese,chromium ,molybdenum,spiral pipe

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