# Hydrogen embrittlement of 20# seamless steel in medium and low pressure gaseous hydrogen

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**Abstract** Tubular tensile specimens containing gaseous pure hydrogen inside were used to study the hydrogen embrittlement (HE) of 20# seamless steel by using slow strain rate tensile test. Obvious HE phenomenon was found when containing hydrogen compared to the one containing nitrogen and the percentage elongation and percentage reduction of area after fracture were used to evaluate the HE sensitivity. In addition, as hydrogen pressure increases, the HE sensitivity becomes larger. It is concluded that tubular tensile specimen is suitable for studying the HE sensitivity for materials exposed to gaseous hydrogen**.**

**Keywords** Hydrogen embrittlement; Tubular tensile specimen; 20# seamless steel; Hydrogen pressure; Diffusion; Electron microscopy

## Reference

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