INFLUENCE OF PARTIAL PASS ON THE PLASTIC PROPERTIES OF WIRE FOR STEEL ROPES

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Abstract

This paper deal with evolution of plastic properties of drawn steel wire for steel ropes during cold drawing. Drawing process is performed using three types of pass schedules. Pass schedules vary in size of the partial deformation and of course the number of passes. The first one is the standard (7 passes) schedule used in drawing mills, two other ones are experimental (6 and 5 passes). The principle is reduction of the number of passes and thus increasing the partial deformation while maintaining the overall deformation. In this paper we describe influence of size of partial deformation on the final plastic properties (number of torsion to fracture and number of bends to fracture). The tests were conducted in accordance with the ČSN ISO 7801 standard Metallic Materials - Wire - Reverse bend test and ČSN ISO 7800 standard Metallic Materials - Wire - Torsion test. Tensile test and metallographic analysis were also conducted.

Keywords: Drawing, steel wire, pass schedule, torsion test, reverse bending test

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