

A mechanical-property value is incomplete without test conditions

Steel Properties: Strength, Hardness & Toughness

Factor	Why it matters	What to read
Test temperature	Especially important for impact and elevated-temperature behavior.	°C and test method
Geometry / gauge length	Affects elongation and comparability.	Specimen type / gauge length
Orientation	Longitudinal and transverse specimens need not give identical results.	Orientation
Product thickness	Can change acceptance rules and specimen availability.	OD / WT / specimen size
Heat-treatment condition	Controls final microstructure and properties.	Delivery / heat-treatment condition

Source / basis: <https://niktrd.com/mechanical-properties>