
(HSLA)

Mpa

HB Mpa

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Mpa

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/ /

(psi) kg/cm²

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(R) / R °C
AIR100

ZWICK

O H W .

DIN50125
DIN50133 EMCO

(c/a)

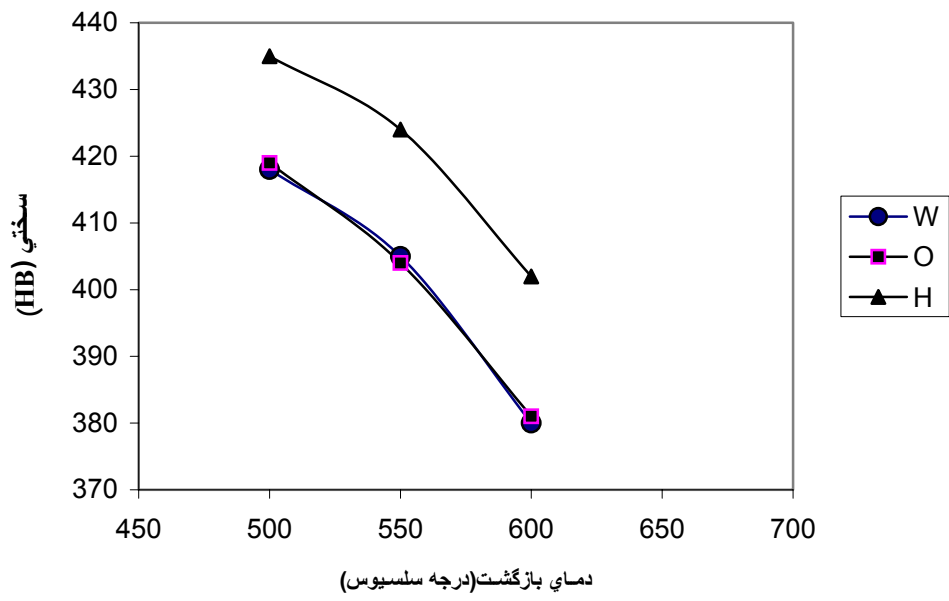
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| | C | Ni | Cr | Mo | P | S | Mn | Si |
|--|---|----|----|----|---|---|----|----|
| | / | / | / | / | / | / | / | / |

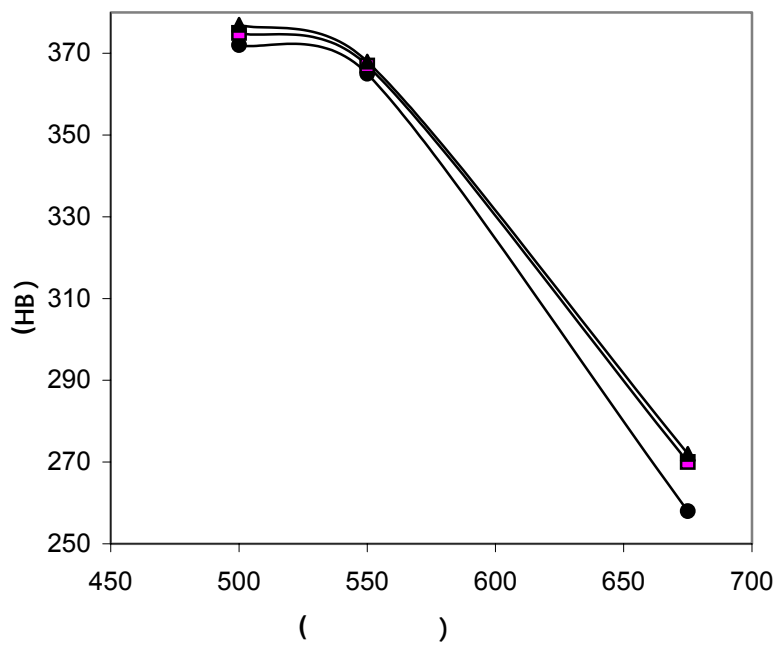
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| | () | () | () | () | |
|--|-----|-----|-----|-----|-----|
| | | | | | W12 |
| | | | | | O12 |
| | | | | | H12 |
| | | | | | W11 |
| | | | | | O11 |
| | | | | | H11 |
| | | | | | W13 |
| | | | | | O13 |
| | | | | | H13 |
| | | | | | W21 |
| | | | | | O21 |
| | | | | | H21 |
| | | | | | W22 |
| | | | | | O22 |
| | | | | | H22 |
| | | | | | W31 |
| | | | | | O31 |
| | | | | | H31 |
| | | | | | W32 |
| | | | | | O32 |
| | | | | | H32 |



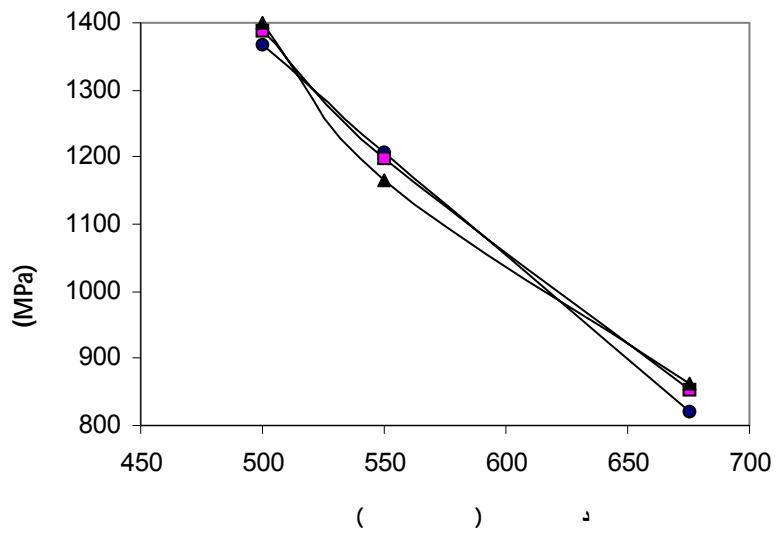
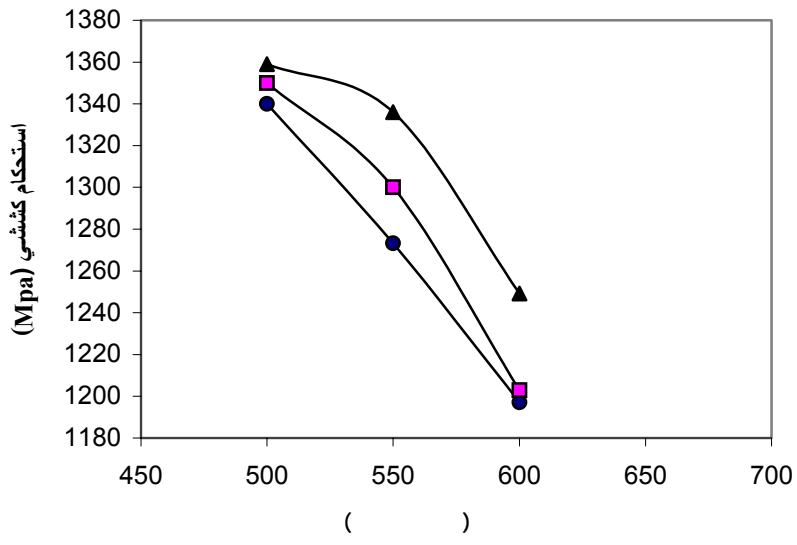
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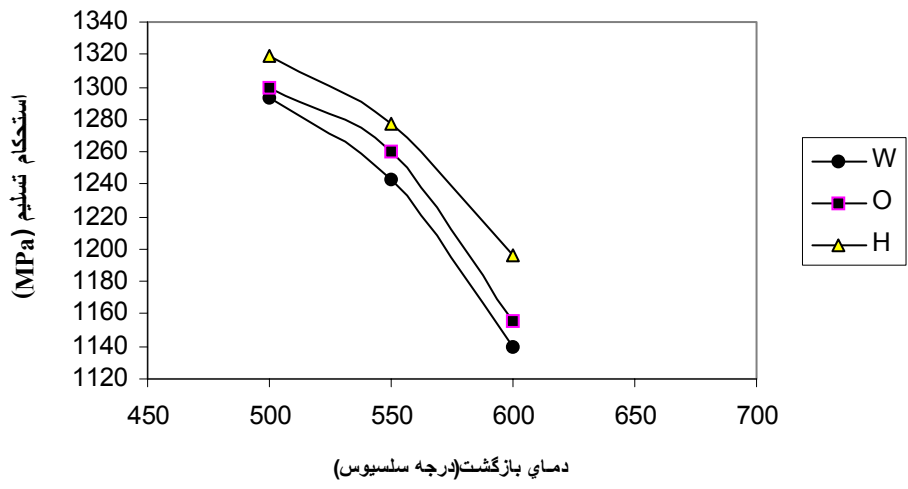
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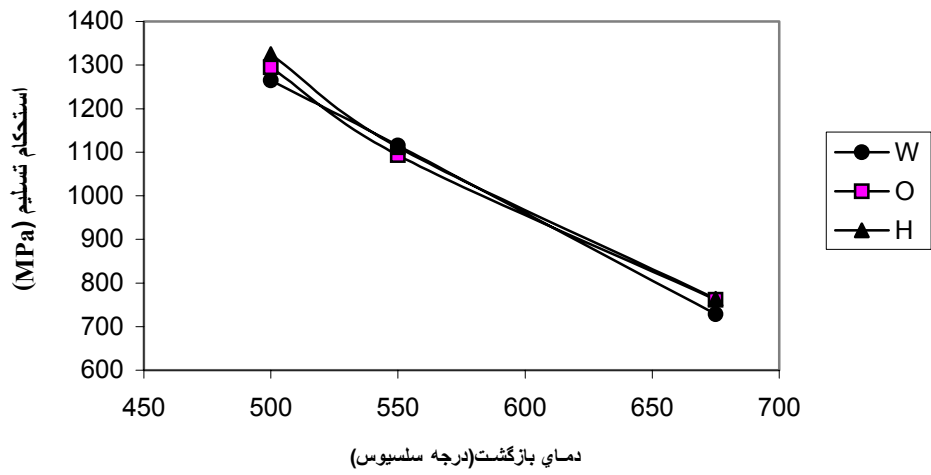
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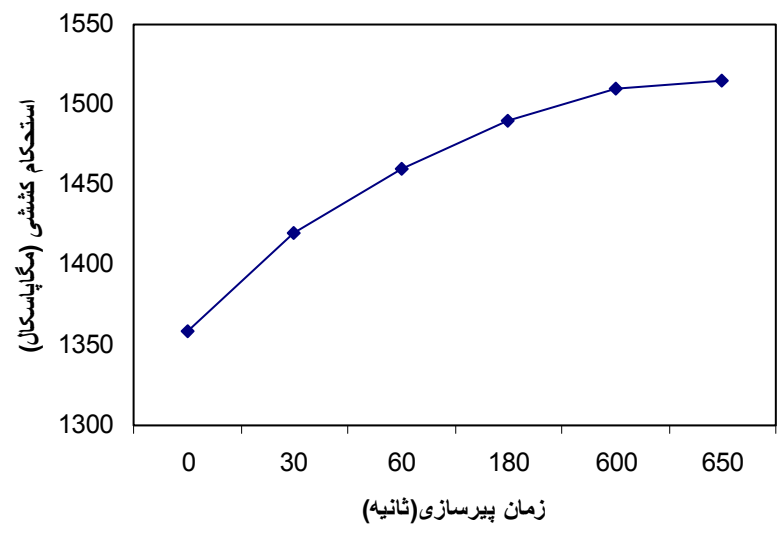
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The Effect of Different Heat treatment Cycles on Mechanical Properties of Alloy

Steel 4340

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Abstract

The alloy Steel 4340 is a member of ultra high strength steels(UHSS).This Steel has a wide application in Construction of high Stress Compounds in Passenger Vehicles and Train Such as Crank Shaft,Motive axle and gear Components. In this research ,the effect of different heat treatment Cycles on mechanical properties of this steel was investigated. The most tensile strength,yield Strength and hardness were acquired 1359Mpa,1319Mpa and 435HB respectively with quenching in air and tempering in 500°C in 30min. Aging time effect on the tensile strength is studied. Maximum of strength (1500MPa) was obtained after 600 s.

Keywords: Ultra high strength steels,Heat treatment,Tensile strength,Yield strength,Hardness.