

# Dura 17-4PH

## General characteristics

A martensitic precipitation hardening steel with high strength and hardness, good corrosion resistance, and satisfactory formability (depending on heat treatment/condition).

## Typical applications

- Oil field equipment
- Chemical process equipment
- Fittings
- Pump shafts
- Gears

## Products & dimensions

## Chemical composition

The typical chemical composition for this grade is given in the table below, together with composition limits given for the product according to different standards. The required standard will be fully met as specified on the order.

The chemical composition is given as % by mass.

	C	Mn	Cr	Ni	Mo	N	Other
<b>Typical</b>	<b>0.02</b>		<b>15.5</b>	<b>4.8</b>			<b>Cu:3.4 Nb</b>
EN 10088-2	≤0.07	≤1.5	15.0-17.0	3.0-5.0	≤0.60		Cu:3.0-5.0
EN 10088-4	≤0.07	≤1.5	15.0-17.0	3.0-5.0	≤0.60		Cu:3.0-5.0

## Corrosion resistance

Pitting corrosion resistance		Crevice corrosion resistance
PRE	CPT	CCT
16	<10	<0

Pitting Resistance Equivalent (PRE) is calculated using the following formula:  $PRE = \%Cr + 3.3 \times \%Mo + 16 \times \%N$

Corrosion Pitting Temperature (CPT) as measured in the Avesta Cell (ASTM G 150), in a 1M NaCl solution (35,000 ppm or mg/l chloride ions).

Critical Crevice Corrosion Temperature (CCT) is obtained by laboratory tests according to ASTM G 48 Method F

# Mechanical properties

Cold rolled coil and sheet	R <sub>p0.2</sub> MPa	R <sub>p1.0</sub> MPa	R <sub>m</sub> MPa	Elongation <sup>1)</sup> %	Impact strength J	Rockwell	HB	HV
EN 10088-2			≤ 1275	≥ 5				

Wire rod	R <sub>p0.2</sub> MPa	R <sub>p1.0</sub> MPa	R <sub>m</sub> MPa	Elongation <sup>1)</sup> %	Impact strength J	Rockwell	HB	HV
<b>Typical</b>	<b>850</b>	<b>1050</b>	<b>1100</b>	<b>22</b>				

## Physical properties

Density kg/dm <sup>3</sup>	Modulus of elasticity GPa	Thermal exp. at 100 °C 10 <sup>-6</sup> /°C	Thermal conductivity W/m°C	Thermal capacity J/kg°C	Electrical resistance μΩm	Magnetizable
7.8	200	10,9	16	500	0.71	Yes

## Fabrication

More detailed information concerning welding procedures can be obtained from the Outokumpu Welding Handbook, available from our sales offices.

## Standards & approvals

Standard	Designation
EN 10088-2	1.4542
EN 10088-4	1.4542

17-4-PH is a registered trademark of AK Steel Corporation.

## Contacts & Enquiries

**Contact your nearest sales office**

[www.outokumpu.com/contacts](http://www.outokumpu.com/contacts)

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