

Prodec 17-4PH

General characteristics

A martensitic, precipitation hardening stainless steel for applications that use Dura 17-4PH. It improves productivity with faster machining, longer tool life, better dimensional tolerances, superior machined surface quality, and improved yields when compared to conventionally produced Dura 17-4PH.

Typical applications

- Fasteners
- Flanges
- Oil field valve equipment
- Pressure fittings
- Chemical process equipment
- Paper mill equipment
- Aircraft parts

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
Typical	0.02		15.5	4.8			Cu:3.4 Nb
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 _{p0.2} MPa	R _{p1.0} MPa	R _m MPa	Elongation ¹⁾ %	Impact strength J	Rockwell	HB	HV
EN 10088-2			≤ 1275	≥ 5				

Wire rod	R _{p0.2} MPa	R _{p1.0} MPa	R _m MPa	Elongation ¹⁾ %	Impact strength J	Rockwell	HB	HV
Typical	850	1050	1100	22				

Physical properties

Density kg/dm ³	Modulus of elasticity GPa	Thermal exp. at 100 °C 10 ⁻⁶ /°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

Working towards forever.

We work with our customers and partners to create long lasting solutions for the tools of modern life and the world's most critical problems: Clean energy, clean water and efficient infrastructure. Because we believe in a world that lasts forever.

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