

High performance

IMPHY 286

IMPHY 286 is a precipitation hardenable stainless steel which shows:

- > Very high strength properties and creep resistance at temperature to about 700°C after aging treatment due to Ti additions.
- > Especial resistance to pitting and crevice corrosion.
- > Excellent fatigue strength and stress-corrosion cracking resistance to chloride ions.
- > Outstanding resistance to intergranular corrosion due to sensitization.
- > Good resistance to oxidation and scaling at high temperature.

Chemical composition

	C	Ni	Cr	Mo	Mn	Ti	Al	V	B	Fe
Mini		24	13.5	1	1.25	1.9		0.1	0.003	Bal
Maxi	0.08	27	16	1.5	2	2.35	0.35	0.5	0.01	

International standards

UNS S66286 – WNr 1.4980 – ASTM A453 – AMS 5731

Typical applications

IMPHY 286 is recommended for any application at high temperature when a high mechanical behaviour is required as fasteners or springs in automotive industry.

Mechanical properties

Conditions	Tensile strength (MPa)	Yield strength (MPa)	Elongation %
Annealed 980° C	≈ 620 MPa	≈ 250 MPa	> 30%
Annealed 980° C + Aged 720° C – 16h	≈ 1070 MPa	≈ 700 MPa	> 30%

Creep (per ASTM A453)	
Load 385 MPa	Temp. 649° C
Time ≈ 300 h	Elong. > 20 %

Creep (per AMS 5731)	
Load 483 MPa	Temp. 649° C
Time ≈ 100 h	Elong. > 15 %

Available Forms

IMPHY 286 is delivered in wire and bars

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The data enclosed in this document are given as indicative values and correspond to our standard product.
Different specific requirements are subject to discussion and formal approval by Aperam Alloys Imphy. For further information or special request, please contact us.

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