

## AFE Technologies Cronite Standard Nickel Alloy Castings, No. HR4

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

### Material Notes:

High temperature nickel alloy castings. Applications include heat treatment and handling products, furnace products, tubes, power generation, and petrochemical industries. Information provided by AFE Technologies/North American Cronite, Inc. Composition Notes: Tungsten added but not quantified in composition table.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_AFE-Technologies-Cronite-Standard-Nickel-Alloy-Castings-No-HR4.php](http://www.lookpolymers.com/polymer_AFE-Technologies-Cronite-Standard-Nickel-Alloy-Castings-No-HR4.php)

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	500 MPa	72500 psi	As Cast
Tensile Strength, Yield	260 MPa	37700 psi	As Cast
Elongation at Break	8.0 %	8.0 %	As Cast; 5.65 A<sup>0.5</sup>
Rupture Strength	3.80 MPa	551 psi	Stress Rupture
	@Temperature 1150 °C, Time 3.60e+7 sec	@Temperature 2100 °F, Time 10000 hour	
	6.00 MPa	870 psi	Stress Rupture
	@Temperature 1100 °C, Time 3.60e+7 sec	@Temperature 2010 °F, Time 10000 hour	
	9.30 MPa	1350 psi	Stress Rupture
	@Temperature 1050 °C, Time 3.60e+7 sec	@Temperature 1920 °F, Time 10000 hour	
	14.0 MPa	2030 psi	Stress Rupture
	@Temperature 1000 °C, Time 3.60e+7 sec	@Temperature 1830 °F, Time 10000 hour	
	20.0 MPa	2900 psi	Stress Rupture
	@Temperature 950 °C, Time 3.60e+7 sec	@Temperature 1740 °F, Time 10000 hour	
28.0 MPa	4060 psi	Stress Rupture	
@Temperature 900 °C, Time 3.60e+7 sec	@Temperature 1650 °F, Time 10000 hour		
39.0 MPa	5660 psi	Stress Rupture	
@Temperature 850 °C, Time 3.60e+7 sec	@Temperature 1560 °F, Time 10000 hour		
52.0 MPa	7540 psi	Stress Rupture	
@Temperature 800 °C, Time 3.60e+7 sec	@Temperature 1470 °F, Time 10000 hour		

Mechanical Properties	Metric	English	Comments
	10.0 MPa	10000 psi	
	@Temperature 750 °C, Time 3.60e+7 sec	@Temperature 1380 °F, Time 10000 hour	Stress Rupture
	93.0 MPa	13500 psi	
	@Temperature 700 °C, Time 3.60e+7 sec	@Temperature 1290 °F, Time 10000 hour	Stress Rupture

Component Elements Properties	Metric	English	Comments
Carbon, C	0.50 %	0.50 %	
Chromium, Cr	18 %	18 %	
Iron, Fe	27 %	27 %	As Remainder
Manganese, Mn	1.0 %	1.0 %	
Nickel, Ni	52 %	52 %	
Silicon, Si	1.5 %	1.5 %	

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