

MOLYBDENUM ARC-CAST PRODUCTS

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MOLYBDENUM ALLOY AB-30W

Arc-Cast Bar

Description of Product This specification covers wrought bar of carbon-deoxidized molybdenum 30 % tungsten alloy produced from ingots consolidated by the H.C. Starck consumable electrode vacuum-arc-casting process.

Chemical Characteristics¹⁾
 (Mass fraction in % [cg/g]; ppm [μ g/g])

The chemical composition of the billet used for producing the wrought bar shall conform to the following limits:

Mo(By Difference)	min.	66.9	%
Tungsten	27.0 -	33.0	%
Ni	max.	0.002	%
*N	max.	0.002	%
*O	max.	0.0025	%
Fe	max.	0.008	%
Si	max.	0.008	%
C	max.	0.030	%

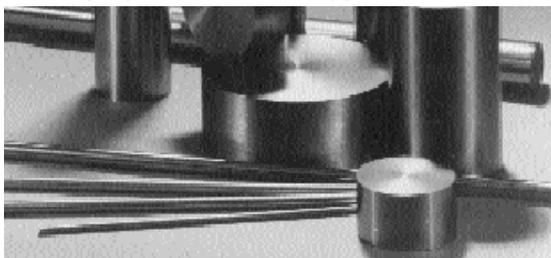
*Unless method of analysis is agreed upon, deviations from these limits alone shall not be cause for rejection.

Structure Bar will be supplied in a stress-relieved condition. Material can be supplied in the recrystallized condition upon request.

Mechanical Properties The hardness of stress-relieved material will be determined to conform to the following (measured at mid-radius location):

Inches	Diameter		Hardness, DPH (10 kg)	
		mm	Minimum	Maximum
Over 1/8 to	7/8	3.2 - 22.2	240	300
Over 7/8 to	1 1/8	22.2 - 28.6	235	300
Over 11/8 to	1 3/8	28.6 - 34.9	230	290
Over 13/8 to	2 7/8	34.9 - 73.0	230	290

Tensile properties can be supplied, at additional cost, if requested at time of order.



Arc-Cast Products

1) Information on testing methods on request.

Dimensional Tolerances

Inches	Diameter		Diameter Variation				Out-of-Round	
	Inches	mm	Inches	mm	mm	Inches	mm	
	1/8 to 9/32	3.2 - 7.1	+0.002	-0.002	+0.05	-0.05	0.004	0.10
Over	9/32 to 13/32	7.1 - 10.3	+0.003	-0.003	+0.07	-0.07	0.006	0.15
Over	13/32 to 5/8	10.3 - 15.9	+0.010	-0.005	+0.25	-0.13	0.012	0.30
Over	5/8 to 7/8	15.9 - 22.2	+0.015	-0.005	+0.38	-0.13	0.015	0.38
Over	7/8 to 1	22.2 - 25.4	+0.020	-0.005	+0.51	-0.13	0.015	0.38
Over	1 to 1 3/8	25.4 - 34.9	+0.020	-0.010	+0.51	-0.13	0.018	0.46
Over	13/8 to 11/2	34.9 - 38.1	+0.020	-0.015	+0.51	-0.25	0.020	0.51
Over	11/2 to 15/8	38.1 - 41.3	+0.025	-0.015	+0.51	-0.38	0.020	0.51
Over	15/8 to 2 1/4	41.3 - 50.8	+0.030	-0.020	+0.64	-0.38	0.025	0.64
Over	2 to 2 1/2	50.8 - 63.5	+0.032	-0.032	+0.76	-0.51	0.025	0.64
Over	2 1/2 to 3 1/4	63.5 - 88.9	+0.032	-0.032	+0.81	-0.81	0.027	0.69

Special finished bars can be supplied with a tolerance of ± 0.002 inch for 2 inches diameter or smaller sizes, and ± 0.003 inch for larger size bars.

Maximum variation from straightness will be 0.050 inch per foot.

Maximum variation in cut length will be + ¼ inch, -0.

Surface Condition

Bars will be supplied with chemically or mechanically cleaned surfaces. Minor surface imperfections, revealed by dye penetrant inspection, may be removed by conditioning, provided such removal does not reduce dimensions below specified tolerance limits. Special finished bars will be supplied with a surface finish of 90 RMS or better.

Identification

Bar will be identified with an appropriate lot number. Each shipping container will be marked with the name of the customer and the purchase order number.

Hazards identification in Advertising (Directive 67/548/EEC Article 26, Directive 1999/45/EC Article 13 and REGULATION (EC) No 1272/2008 Article 48)

none.

Reports

A product certification report that details pertinent chemical, mechanical, structural and physical integrity features will be provided.

Rejection

H.C. Starck must receive written notification of rejected material with the reason for rejection. The right is reserved to inspect rejected material at customer plant for claim validation. The material may be returned only after proper authorization.

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