PURE MOLYBDENUM CLC
Arc-Cast Bar Low Carbon

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

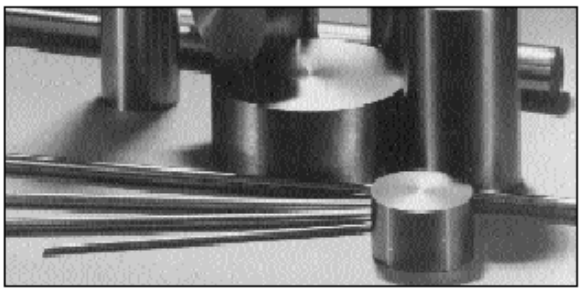
Chemical Characteristics[1)]
(Mass fraction in % [cg/g]; ppm [µg/g])

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

Mo (By Difference)	min.	99.97	%
C	max.	0.010	%
*N	max.	0.002	%
*O	max.	0.002	%
Fe	max.	0.010	%
Ni	max.	0.002	%
Si	max.	0.010	%

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

Structure Material can be supplied in the recrystallized condition upon request.



Arc-Cast Products

Dimensional Tolerances

Diameter		Diameter Variation				Out-of-Round	
Inches	mm	Inches		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

1) Information on testing methods on request.

Dimensional Tolerances (continued)

Diameter Inches	Diameter mm	Diameter Variation Inches	Diameter Variation mm	Out-of-Round Inches	Out-of-Round mm
Over 1 to 1 3/8	25.4 - 34.9	+0.020 -0.010	+0.51 -0.25	0.018	0.46
Over 13/8 to 11/2	34.9 - 38.1	+0.020 -0.015	+0.51 -0.38	0.020	0.51
Over 11/2 to 15/8	38.1 - 41.3	+0.025 -0.015	+0.64 -0.38	0.020	0.51
Over 15/8 to 2 41.3	- 50.8+0.030	-0.020 +0.76	-0.51 0.025	0.64	
Over 2 to 2 1/2	50.8 - 63.5	+0.032 -0.032	+0.81 -0.81	0.025	0.64
Over 21/2 to 31/2	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 and internal conditon

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.
The internal integrity of bar >1.0" diameter will be determined by ultrasonic inspection and shall satisfy H.C. Starck Ultrasonic Specification No. H.C. Starck QC-32 (latest version).

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.

H.C. Starck Inc.
460 Jay St
Coldwater, MI 49036 / USA
Phone +1 (480) 977 6108

info@hcstarcksolutions.com
www.hcstarcksolutions.com