McMASTER-CARR®

Certificate

330-995-5500
330-995-9600 (fax)
cle.sales@mcmaster.com

Purchase Order	Order Date	Placed By	McMaster-Carr Number	Number of Certificates
P1474785	2/28/2023	Jane Beattey	6992804-01	1

Line		Product	Ordered	Status	Certificate
2	8911K338	932 Bearing Bronze Tube, 1/4" Wall Thickness, 4" OD, 13" Long	1 each	1 each delivers March 1	200–2661

Your order is subject only to our terms and conditions, available at www.mcmaster.com or from our Sales Department.

CERTIFICATE OF ANALYSIS

THE FOLLOWING MATERIAL IS CERTIFIED TO:

CONCAST METAL PRODUCTS CO.

PO BOX 816 - MARS, PA 16046

November 22 , 2022

McMaster-Carr Supply Co.
600 North County Line Road
P.O. Box 1207
Elmhurst, IL 60126-1207
Attn: Quality Control Department

GENERAL PRODUCT INFORMATION

Heat#: 2213129

Manufacture Date: 09/22/22
Alloy: 932
Shape: TUBE
Size#: 3 1/2 X 4
Internal Standards: ASTM B505

Customer PO#: TA-59224300
Customer Job#:
Customer Part#: 473
Control#:
Date Shipped: 11/22/22
Quantity Shipped: 8
Weight Shipped: 136.00
Packslip#: 348930
Invoice#: 0
Country of Origin: UNITED STATES

CHEMICAL ANALYSIS

		DEFINED BY SPECIFICATION Minimum		Maximum	MEASURED IN LABORATORY
**	Cu	81.0000	-	85.0000	81.7200
	Sn	6.3000	-	7.5000	6.5610
	Pb	6.0000	-	8.0000	7.2720
	Zn	2.0000	-	4.0000	3.6950
	Fe	0.0000	-	0.2000	0.0920
	Ni	0.0000	-	1.0000	0.3970
	SB	0.0000	-	0.3500	0.1860
	P	0.0000	-	1.5000	0.0330
	S	0.0000	-	0.0800	0.0400
	Al	0.0000	-	0.0050	0.0020
	Si	0.0000	-	0.0050	0.0020

** In determining copper minimum, copper may be calculated as copper plus nickel

Physical Analysis *	Yield .5% UNDER LOAD (PSI)	N/mm²	Tensile (PSI)	N/mm²	Elongation in 4D or 2 in. min %	Brinell Hardness BRINELL 500
Defined By Specification	20000	137.9	35000	241.3	10	0 - 0

This is to certify that all material listed is free from mercury contamination and no mercury bearing equipment was used in any of our manufacturing, fabricating, assembly or testing operations. No materials containing Class I or Class II ODC's; CFC's; Halons or HCFC's are used in our manufacturing process. None of the EPA's listed ODC's are used in our testing, assembly or fabricating procedures. Additionally we do not purchase, from our suppliers, any of the EPA's listed ODC's. * Minimum tensile and yield strength shall be reduced 10% for cast bars having a thickness, diameter, cross section or wall of 4" or more. All Nickel measurements are inclusive of Cobalt concentrations.

CERTIFICATE NO.'S
25513/A/0001/AN/En
32119/A/0001/UK/En

CONCAST METAL PRODUCTS

Jared D. Goran
Lab Manager