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
P1495200	11/2/2023	Jane Beattey	3363047-01	1

Line		Product	Ordered	Status	Certificate
1	8911K365	932 Bearing Bronze Tube, 1/2" Wall Thickness, 3-1/4" OD, 13" Long	4 each	4 each deliver November 3	225–0903

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

CERTIFICATE OF ANALYSIS

CONCAST® METAL PRODUCTS CO.

THE FOLLOWING MATERIAL IS CERTIFIED TO:

PO BOX 816 - MARS, PA 16046

October 11 , 2023

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#: 2312223

Manufacture Date: 06/29/23
Alloy: 932
Shape: TUBE
Size#: 2 1/4 X 3 1/4
Internal Standards: ASTM B505

Customer PO#: TA-68441560
Customer Job#:
Customer Part#: 613
Control#:
Date Shipped: 10/11/23
Quantity Shipped: 8
Weight Shipped: 167.00
Packslip#: 364243
Invoice#: 0
Country of Origin: UNITED STATES

CHEMICAL ANALYSIS

		DEFINED BY SPECIFICATION Minimum		Maximum	MEASURED IN LABORATORY
**	**Cu**	81.0000	-	85.0000	81.9270
	Sn	6.3000	-	7.5000	6.4200
	Pb	6.0000	-	8.0000	7.3190
	Zn	2.0000	-	4.0000	3.5800
	Fe	0.0000	-	0.2000	0.0610
	Ni	0.0000	-	1.0000	0.3810
	SB	0.0000	-	0.3500	0.2320
	P	0.0000	-	1.5000	0.0400
	S	0.0000	-	0.0800	0.0390
	Al	0.0000	-	0.0050	0.0000
	Si	0.0000	-	0.0050	0.0010

** 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