

Brammer Standard Company

Certificate of Analysis

BS CSN-2C

Calcium Treated Steel

C	Mn	P	S
0.469	0.60	0.012	0.0305
Si	Cu	Ni	Cr
0.17	0.073	0.071	0.072
Mo	Sn	Al	V
(0.006)	(0.006)	0.046	0.004
Ca	Ti	Co	N
0.0033	0.002	(0.006)	0.0173

(analysis listed as percent by weight)

This Reference Material is supplied in chip form in 100 gram units.

Note: Use calcium free containers when preparing this material for calcium analysis.

Some of the cooperating laboratories were:

Allegheny Ludlum, Brackenridge, PA
Allegheny Ludlum, Lockport, NY
Analytical Associates, Detroit, MI
Brammer Standard Company, Inc., Houston, TX
CyTemp, Titusville, PA
Jessop Steel Company, Washington, PA
Timken Company, Canton, OH

SEE REVERSE SIDE FOR MORE INFORMATION.

Certificate No. REC-CSN2C-100488

THIS CERTIFICATE OF ANALYSIS HAS BEEN RECREATED FOR POSTING ON THE WEB.

Brammer Standard Company, Inc., 14603 Benfer Road, Houston, TX 77069
Telephone (281) 440-9396 Fax (281) 440-4432

Analysis Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo
1	0.4650	0.570	0.011	0.0295	0.160	0.068	0.065	0.068	0.004
2	0.4664	0.580	0.012	0.0297	0.170	0.071	0.067	0.069	0.005
3	0.4683	0.595	0.012	0.0300	0.172	0.072	0.070	0.070	0.005
4	0.4693	0.599	0.012	0.0309	0.172	0.074	0.073	0.070	0.010
5	0.4698	0.604	0.013	0.0311	0.175	0.075	0.074	0.072	
6	0.4757	0.606		0.0319	0.180	0.077	0.078	0.075	
7		0.610						0.077	
8		0.612							
Average	0.4691	0.5970	0.0120	0.0305	0.1715	0.0728	0.0712	0.0716	0.006
Std.Dev.	0.0037	0.0149	0.0007	0.0009	0.0066	0.0032	0.0048	0.0033	0.003
Certified	0.469	0.60	0.012	0.0305	0.17	0.073	0.071	0.072	(0.006)

continued

Analysis Number	Ca	V	Co	Sn	Al	Ti	N
1	0.0028	0.003	0.0054	0.005	0.0420	0.0017	0.0168
2	0.0030	0.003	0.0056	0.005	0.0430	0.0020	0.0170
3	0.0031	0.004		0.007	0.0450	0.0020	0.0171
4	0.0032	0.005			0.0460	0.0024	0.0173
5	0.0033	0.005			0.0470	0.0026	0.0177
6	0.0034				0.0520		0.0179
7	0.0035						
8	0.0037						
Average	0.0033	0.0040	0.0055	0.0057	0.0458	0.0021	0.0173
Std.Dev.	0.0003	0.0010	0.0001	0.0012	0.0035	0.0004	0.0004
Certified	0.0033	0.004	(0.006)	(0.006)	0.046	0.002	0.0173

Data in parentheses are not certified but provided for information only.

The values listed above are individual laboratory analytical results.

Methods of analysis used were a combination of ASTM Standard Test Methods for classical wet chemistry, ICP and AA spectrometric methods, and combustion procedures for carbon and sulfur.

Inquiries concerning this Reference Material should be directed to:

Brammer Standard Co., Inc.
14603 Benfer Road
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www.brammerstandard.com

Phone: (281) 440-9396
Fax: (281) 440-4432
email: contact@brammerstandard.com

Certified by: _____ on October 4, 1988.

G. R. Brammer

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