

BRAMMER STANDARD COMPANY, INC.

Provisional Certificate of Analysis BS TS15

Certified Reference Material for T15 Tool Steel

| | Estimated Analysis ¹ | | Estimated Analysis ¹ |
|----|---------------------------------|--------------------------------------|---------------------------------|
| | | Analysis listed as percent by weight | |
| Al | 0.003 | N | 0.044 |
| As | <0.05 | Nb | 0.008 |
| B | 0.0002 | Ni | 0.23 |
| C | 1.6 | O | 0.015 |
| Ca | <0.005 | P | 0.021 |
| Co | 4.7 | S | 0.058 |
| Cr | 3.8 | Si | 0.35 |
| Cu | 0.06 | Sn | 0.007 |
| Fe | [72.6] | Ti | 0.002 |
| Mg | <0.005 | V | 4.9 |
| Mn | 0.25 | W | 11.4 |
| Mo | 0.47 | Zr | 0.006 |

¹ The estimated value listed is the present best estimate of the true value. Values are given in weight percent.

Form: This CRM is machined in the form of a disc approximately 38 mm in diameter and 19 mm thick by Brammer Standard Company, Inc.

A detailed final certificate of analysis will be supplied by October 16, 2018.