

**QUALITY CERTIFICATE**

|                |                           |                            |  |
|----------------|---------------------------|----------------------------|--|
| REFERENCE NO # |                           | CUSTOMER NAME /<br>CODE #: |  |
| PRODUCT:       | Tempered Martensite Steel |                            |  |
| BATCH NO:      |                           | QM INVOICE NO:             |  |
| LOT NO:        |                           | QM CODE:                   |  |
| BAG #:         |                           | CAS NO#                    |  |
| MATERIAL ID :  |                           | Quality Cert #             |  |

**COMMODITY SPECIFICATIONS:**

STEEL SHOT S330

**INSPECTION RESULTS****SPECIFICATION SHEET**

|                       |                                                       |               |               |
|-----------------------|-------------------------------------------------------|---------------|---------------|
| CHEMISTRY             | Carbon:                                               | 0.10 to 0.15% | SAE J2175     |
|                       | Silicon:                                              | 0.10 to 0.25% |               |
|                       | Manganese:                                            | 1.20 to 1.50% |               |
|                       | Aluminum:                                             | 0.05 to 0.15% |               |
|                       | Phosphorus:                                           | 0.035% max.   |               |
|                       | Sulfur:                                               | 0.035% max.   |               |
| SCREENING             | Sieve                                                 | Opening       | Specification |
|                       | 14                                                    | 0.0555        | A/P           |
|                       | 16                                                    | 0.0469        | 5% max.       |
|                       | 18                                                    | 0.0394        |               |
|                       | 20                                                    | 0.0331        | 85% min.      |
|                       | 25                                                    | 0.0278        | 96% min.      |
| HARDNESS              | 40 - 51 Rc, typical 44.5 Rc                           |               | SAE J2175     |
| % ROUNDS              | < 5% non-spherical (length > 2 x width), typical < 3% |               | SAE J2175     |
| % VOIDS AND HOLLOW    | < 10% voids and hollows, typical < 2%                 |               | SAE J2175     |
| NON-MAGNETIC MATERIAL | < 1% non-magnetic material, typical < 0.5%            |               | SAE J2175     |
| DENSITY               | > 7 g/cc (wet method)                                 |               | SAE J2175     |





|                   |                                                                                                                       |
|-------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>DURABILITY</b> | > 3700 passes (Ervin Test), typical 4000 SAE J2175                                                                    |
| <b>PACKAGING</b>  | 50 lb. bags, 2000 lb. drums, 2000 - 4000 lb. hoppers, bulk dump truck, other custom packaging available upon request. |

