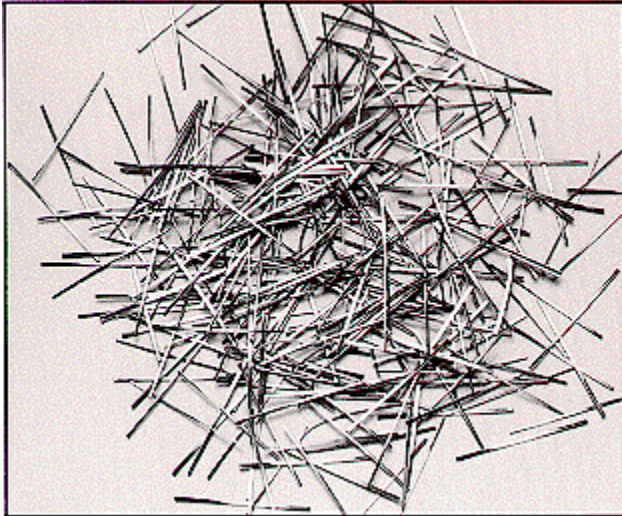


INCREASE REFRACTORY LIFE 2 or 3 TIMES with

RIBTEC™ stainless steel fibers



Field tests have proven that refractory life is increased two or three times when Ribtec stainless steel fibers are added to the refractory mix. They give you increased resistance to thermal cycling, steep thermal gradients and thermal/mechanical shock . . . for reduced maintenance and/or significant energy savings . . . resulting in MUCH LOWER OPERATING COSTS! Ribtec fibers are widely used in ceramic processing, primary metals, power, cement, and lime and petrochemical industries.

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TECHNICAL PROPERTIES AND PERFORMANCE DATA ON RIBTEC STAINLESS STEEL FIBERS

| ALLOY* | RIBTEC-HT | RIBTEC-LR (430) | RIBTEC-GR (304) | RIBTEC-OS (446) | RIBTEC-310 (310) | RIBTEC-OC (330) |
|--|--|--|--|--|--|--|
| Melt temperature Range, °F | 2700/2790 | 2700/2790 | 2550/2650 | 2600/2750 | 2550/2650 | 2450/2600 |
| Thermal conductivity @ 1000°F, BTU/hr/ft ² /°F/ft | 15.3 | 15.3 | 11.6 | 14.3 | 10.4 | 12.4 |
| Modulus of elasticity x 10 ⁻⁶ @ 600°F – PSI | 12.0 | 12.0 | 18.0 | 14.0 | 18.0 | 19.5 |
| Fiber tensile strength @ 1600° F – PSI | 8380 | 6800 | 18000 | 7650 | 22000 | 28000 |
| Coef. of thermal expansion x 10 ⁻⁶ @ 1600°F per °F | 7.6 | 7.6 | 11.2 | 7.3 | 10.3 | 9.8 |
| Critical Oxidation Temperature | 2000°F | 1500°F | 1900°F | 2200°F | 2000°F | 2250°F |
| Stocked fiber sizes** | 1 3/8" x .020" 1" x .020" 3/4" x .015" 5/8" x .008" | 1 3/8" x .020" 1" x .020" 3/4" x .015" 5/8" x .008" | 1 3/8" x .020" 1" x .020" 3/4" x .015" 5/8" x .008" | 1 3/8" x .020" 1" x .020" 3/4" x .015" 5/8" x .008" | 1 3/8" x .020" 1" x .020" 3/4" x .015" 5/8" x .008" | 1 3/8" x .020" 1" x .020" 3/4" x .015" 5/8" x .008" |
| Increased flexural strength Of 60% alumina Refractory Fired at 1600° F for 8 hrs 1.3% volume fiber | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 |
| Increased Energy Absorption**** 60% alumina Ref. Fired at 1600°F for 8 Hrs*** | 10-12 | 10-12 | 10-12 | 10-12 | 10-12 | 10-12 |
| Carburization increase in Carbon content % in 25 hrs @ 1800°F | 1.03 | 1.03 | 1.4 | .07 | .02 | .08 |
| Corrosion rate in coke oven Gas at 1800°F (mils/yr) | 24 | 236 | 225 | 14 | 25 | 75 |
| Corrosion rate Nitriding (mils/yr) | 900 | 900 | 590 | 1120 | 230 | 60 |
| Oxidation cyclic conditions 1000 hr % wt loss @ 1800°F | 4% | 70% @ 100 hrs | 70% @ 100 hrs | 4% | 13% | 18% |

*Other alloys can be produced on request.

**Fibers have been produced with effective diameters of .005" to .060" and lengths 3/16" to 3".

***Data available also at higher temperatures on request.

****Ratio of area under the stress strain curve of a reinforced refractory to an unreinforced refractory.

HOT CORROSION ALLOY SELECTION UNIT CORROSION RATES

Numbers 1-2-3 indicates the quality of the alloy for the environment shown

| RIBTEC ALLOYS | OXIDATION | CARBURIZATION | CARBURIZATION | SULFUR | SULFUR | SULFUR + CARBURIZATION | SULFUR + CARBURIZATION | NITRIDING | CHLORINE | REDUCING | HYDROGEN | HYDROGEN | HYDROGEN SULFIDE | VANADIUM PENTOXIDE |
|---------------|-----------|---------------|---------------|--------|--------|---------------------------|---------------------------|-----------|----------|----------|----------|----------|---------------------|-----------------------|
| | | 1800°F | 2000°F | 2000°F | 1500°F | 1500°F | 1800°F | | | | 1000°F | 1400°F | 1000°F | 1000°F |
| 430 | 1600°F | 3 | 2 | 3 | 1 | 2 | 3 | 3 | 3 | 1 | 2 | 1 | 1 | 3 |
| 304 | 1900°F | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 3 |
| 446 | 2200°F | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 3 | 1 | 1 | 1 |
| 310 | 2100°F | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 3 |
| 330 | 2200°F | 2 | 1 | 3 | 3 | 3 | 3 | 1 | 1 | 3 | 3 | 3 | 3 | 3 |

KEY: 1) Best 2) Acceptable 3) Not Recommended