

# ZOLTEK™ OX YARNS

## DESCRIPTION

ZOLTEK OX yarns are spun yarns manufactured from ZOLTEK OX tow. ZOLTEK OX yarns are inherently fire resistant, thermally stable, electrically non-conductive and exhibit excellent resistance to chemicals and solvents. ZOLTEK OX yarns can be knit or woven and are used in high performance FR apparel, woven welding blankets, industrial fire-blocking layers, mechanical seals and gaskets, high temperature belting and can also be carbonized for use in carbon fiber composite end uses.

## RECOMMENDED USE

For protective apparel, woven welding blankets, scrim fabrics, mechanical packings and gaskets, and precursor for carbonized yarns and fabrics. After carbonization, the surface fibers extending in multiple directions make the product ideally suited for high performance carbon composite end uses.



## TYPICAL PROPERTIES

| Worsted Count* | Plies | Denier (g/9000 m) | Decitex (g/10 km) | Yield (yds/lb) | Yield (m/kg) | Turns Per Inch & "Twist" |
|----------------|-------|-------------------|-------------------|----------------|--------------|--------------------------|
| 1/27           | 1     | 296               | 329               | 15,120         | 30,480       | 10.0 - "Z"               |
| 1/17.5         | 1     | 456               | 507               | 9,791          | 19,795       | 10.0 "Z"                 |
| 2/27           | 2     | 592               | 658               | 7,560          | 15,240       | 6.0 - "S"                |
| 1/10           | 1     | 801               | 890               | 5,600          | 11,289       | 6.0 - "Z" or "S"         |
| 2/10           | 2     | 1,603             | 1,781             | 2,800          | 5,645        | 5.0 - "S"                |
| 1/5            | 1     | 1,568             | 1,742             | 2,850          | 5,745        | 6.0 - "Z"                |
| 2/5            | 2     | 3,151             | 1,425             | 1,425          | 2,873        | 2.1 - "S"                |
| 5/5            | 5     | 7,859             | 8,732             | 570            | 1,149        | 2.0                      |

\*Custom yarn counts and plied yarns, up to 10 plies, are available.

## FIBER PROPERTIES

|             |   |
|-------------|---|
| Density     | 1.37 g/cm <sup>3</sup> (0.0495 lb/in <sup>3</sup> ) |
| Diameter    | 13.0 microns  |
| LOI         | 40%+  |
| Color       | Black   |
| Resistivity | 8 x 10 <sup>8</sup> Ω cm                            |

The properties listed in this datasheet do not constitute any warranty or guarantee of values. This information should only be used for the purposes of material selection. Please contact us for more details.



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| CHEMICAL COMPOSITION (%) |        |
|--------------------------|--------|
| Carbon Content           | 62     |
| Nitrogen                 | 21.5   |
| Oxygen                   | 12     |
| Hydrogen                 | 4.5    |
| Sodium                   | < 0.1  |
| Trace Metals             | < 0.01 |

| CHEMICAL RESISTANCE |           |
|---------------------|-----------|
| Strong Acids        | Good      |
| Weak Acids          | Excellent |
| Strong Bases        | Poor      |
| Weak Bases          | Good      |
| Organic Solvents    | Excellent |

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## TYPICAL PACKAGING

ZOLTEK OX Yarns are wound on 6" conical cones and packaged in plastic lined boxes.

## APPROVAL

ZOLTEK OX yarns meet the human-ecological requirements established by Oeko-Tex® Standard 100 for products used in direct contact with skin.



## CERTIFICATION

ZOLTEK OX Yarns are manufactured in accordance with ZOLTEK's written and published data. A Certificate of Conformance is provided with each shipment.

## SAFETY

Obtain, read, and understand the Material Safety Data Sheet (SDS) before use of this or any other ZOLTEK product.