

# Quartzel<sup>®</sup> yarn

## 14 microns

### INTRODUCTION

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Saint-Gobain Quartz S.A.S. was established in 1922 as a subsidiary company of the Saint-Gobain Group and started manufacturing fused quartz yarn in 1963 in Nemours (France).

Saint-Gobain Quartz is recognized as world-wide leader in the production of fused quartz fibers which are commercialized under the brand name Quartzel<sup>®</sup>.

Saint-Gobain Quartz U.S.A. has been manufacturing Quartzel<sup>®</sup> yarn since 1988 in Louisville, Kentucky.

Quartzel<sup>®</sup> fiber is homogeneous, non-porous, continuous, amorphous, ultra-pure silica glass with an SiO<sub>2</sub> content  $\geq 99.95\%$ ). Quartzel<sup>®</sup> yarns are assemblies of filaments gathered into strands (forming package), then processed with varying levels of twist and ply.

### APPLICATIONS

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#### Heat insulation at elevated temperature

- Fabrics for furnace lining in industrial applications and Semicon,
- High temperature seals
- High temperature cables
- Filtration at elevated temperature and/or in aggressive environment
- Thermocouple insulation
- Thermal protection systems (TPS) of space launchers,
- Satellite thermal protection
- Insulation in automotive exhausts

#### Reinforcement material in composite industry

- Radome (weather radome, fighter radome, Satcom, DBS)
- Electromagnetic window
- Stealth materials with structural performance for Unmanned Aerial Vehicles, Uninhabited Aerial Vehicles, fighters, bombers, ships, submarines, tanks
- Ablative materials

## TEXTILE PROCESSING

Quartzel® yarns are supplied in H3 bobbins and can be used in large variety of textile processes:

- Beaming / weaving
- Braiding
- Multiple winding
- Texturizing / stretch breaking
- Knitting

## TECHNICAL DATA AND YARN NOMENCLATURE

SiO<sub>2</sub> content: 99.95% minimum

The following table gives details of standard Quartzel® yarns 9 microns filaments.

Based on ISO 2078 (Europe)	US customary system	Nominal linear density		Tensile strength
		tex	100 x yard/lb	Typical values in daN
C14 40 Z20 QS1318	125 1/0 QS1318 0.5Z	40	125	2.3 daN
C14 80 Z20 QS1318	125 2/0 QS1318 4Z 3.8S	80	62	3.5 daN
C14 80x2 S150 QS1318	125 2/2 QS1318 4Z 3.8S	160	31	10.5 daN

- QS1318 is a multipurpose high performance direct size, recommended for most textile processes and composite applications.

SiO<sub>2</sub> content: 99.95% minimum

Sizing content 0.10 to 0.90%

Humidity: less than 1%

Count (tex): nominal +/- 10%

Parameter	Unit	Applicable Standards
Linear count	Tex	ISO 1889
Moisture content	%	ISO 3344
Size content	%	ISO 1887
Tensile strength	N	ISO 3341

## STORAGE

Quartzel® yarns should be kept in their original carton package under normal storage conditions, preferably less than 25°C and 80% relative humidity .

The information given in this data sheet is believed to be accurate and reliable. However it is the users responsibility to determine whether the material is suitable for his particular application, process and/or environment. This data sheet may be modified without prior notice.

Quartzel® is a registered trademark of Saint-Gobain Quartz S.A.S.

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