# TECHNICAL DATA SHEET

Version: 2 - 19.08.2025

# 4AC.054
# Fabric - Ceramic

## Overview

Final Advanced Materials offers an innovative continuous polycrystalline ceramic fibre. The metallic oxides in its composition make its transformation into ceramic textile particularly easy. Its mechanical and thermal performance outperform that of other fibrous materials such as aramid, silica, quartz, or glass.

Our fabrics are mainly made of alumina ($Al_2O_3$) at different proportions. Thus, depending on their composition, they can withstand operating temperatures up to 1,370 °C. These products are mostly used in the industry as thermal shields or fire barriers.

## Technical Data

| Properties | | Unit | Value | | | | |
|---|---|---|---|---|---|---|---|
| Material | | | Ceramic | | | | |
| Declination | | | A62 | A70 | A72 | A80 | A99 |
| Composition | | % | $Al_2O_3$: 62.5<br>$SiO_2$: 24.5<br>$B_2O_3$: 13 | $Al_2O_3$: 70<br>$SiO_2$: 28<br>$B_2O_3$: 2 | $Al_2O_3$: 72<br>$SiO_2$: 28 | $Al_2O_3$: 80<br>$SiO_2$: 20 | $Al_2O_3$: > 99 |
| Temperature | Operating | °C | 1,200 | 1,300 – 1,400 | 1,250 | 1,300 | 1,000 |
| | Peak | | 1,300 | 1,400 – 1,500 | 1,350 | 1,400 | 2,000 |

## General Data

| Material | Thermal resistivity | Mechanical strength | Chemical resistance |
|---|---|---|---|
| Ceramic | ★★★★★ | ★☆☆☆☆ | ★★★★★ |

## Applications

- Fire barrier
- Thermal shield
- Insulation gasket
- Thermal insulation
- Curtain and lining
- Expansion joint
- Matrix for composite manufacturing

# Ceramic fabric

## Available fabrics

| Basis weight (g/m²) \ Thickness (mm) | 0.1 ± 0.02 | 0.22 ± 0.02 | 0.3 ± 0.02 | 0.37 ± 0.02 | 0.41 ± 0.02 |
|---|---|---|---|---|---|
| 80 ± 5 | 1TEX002266 Plain (A72) | 1TEX002668 Leno (A62) | | | |
| 135 ± 10 | | 1TEX002267 Plain (A72) | | | 1TEX002268 Plain (A72) |
| 260 ± 10 | | 1TEX002695 Satin ¼ (A99) | 1TEX002270 Satin (A72) | 1TEX002661 Satin 1/5 (A62) | |
| 290 ± 20 | | | 1TEX002269 Plain (A72) | 1TEX002662 Plain (A62) | 1TEX002660 Satin1/5 (A62) |
| 370 ± 20 | | | 1TEX002696 Satin 1/8 (A99) | | |

| Basis weight (g/m²) \ Thickness (mm) | 0.51 ± 0.02 | 0.55 ± 0.02 | 0.75 ± 0.02 | 0.80 ± 0.02 | 0.85 ± 0.02 |
|---|---|---|---|---|---|
| 440 ± 20 | 1TEX002663 Satin 1/5 (A62) | 1TEX002271 Twill (A72) 1TEX002275 Twill (A80) | | | |
| 510 ± 30 | 1TEX002686 Satin 1/5 (A70) | 1TEX002276 Twill (A70) | 1TEX002664 Satin ¼ (A62) | | |
| 550 ± 30 | | | | | 1TEX002272 Plain (A72) |
| 610 ± 30 | 1TEX002697 Satin 1/8 (A99) | | | 1TEX002665 Satin ¼ (A62) | |
| 670 ± 30 | | | | 1TEX002273 Satin (A72) | |
| 680 ± 30 | | | | 1TEX002687 Satin ¼ (A70) | |

| Basis weight (g/m²) \ Thickness (mm) | 0.97 ± 0.02 | 1 ± 0.02 | 1.3 ± 0.02 | 1.35 ± 0.02 | 1.4 ± 0.02 |
|---|---|---|---|---|---|
| 740 ± 40 | 1TEX002277 Satin (A70) | | | | |
| 810 ± 40 | | 1TEX002666 Satin 1/5 (A62) | | | |
| 940 ± 40 | | | | 1TEX002274 Double twill (A72) | 1TEX002667 Double plain (A62) |
| 1,050 ± 50 | | | 1TEX002278 Double twill (A70) | | |

# Ceramic fabric

**The fabrics are untreated or available with a heat-cleaned or heat-treated finish.**

Heat cleaned: During the manufacturing process, the products are coated with a sizing or finishes made of organic polymers, that aid for the textile treatment. During initial heating, these polymers may decompose and/or ignite, releasing potentially hazardous byproducts. The treatment reduces irritation during handling, minimises airborne fibres, and decreases the amount of smoke produced at high temperatures.

Heat treated: If the product is to be exposed to hot and humid environments for an extended period, heat treatment is necessary. This heat treatment changes the crystalline structure of the fibre, preventing its degradation under such conditions.

*The physical properties in this documentation are provided for informational purposes only and do not constitute a contractual commitment. Please contact our technical service if you require any additional information.*