

RS

# Fusion

QUARTZITE

Paramirim, Bahia · Brazil

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GEOLOGICAL AND TECHNICAL INFORMATION

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ROSSO STONE

NATURALLY ELEVATED

AT A GLANCE

# The numbers that drive specification

Average values from the full test programme. Every figure below is reported in context, with its method and dispersion, in the pages that follow.

|                                    |                              |                                     |
|------------------------------------|------------------------------|-------------------------------------|
| DRY APPARENT DENSITY<br>2723 kg/m³ | WATER ABSORPTION<br>0.305 %  | APPARENT POROSITY<br>0.830 %        |
| AXIAL COMPRESSION<br>78.1 MPa      | FLEXURAL STRENGTH<br>9.9 MPa | ABRASION RESISTANCE INDEX<br>35.526 |

ORIGIN

# Where the block comes from

|           |       |         |
|-----------|-------|---------|
| LOCALITY  | STATE | COUNTRY |
| Paramirim | Bahia | Brazil  |

Fusion is extracted in Paramirim, in the state of Bahia, in the northeast of Brazil.

PETROGRAPHY

# Rock classification

GROUP

Metamorphic

NAME

Chlorite Muscovite Quartzite

GEOLOGIST

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CREA-BA 3325-D

INSTITUTION

Universidade Federal da Bahia · Instituto de Geociências  
(IGEO/UFBA)  
Laboratório de Física Nuclear Aplicada (LFNA/UFBA) · Petrography  
Sector

MINERALOGICAL COMPOSITION

# What the stone is made of



PHYSICAL TESTS

# Measured performance

Each test reports the average value alongside its standard deviation and coefficient of variation, so the spread behind the headline number stays visible.

## Physical indexes

Method NBR 15845/2010 — Annex B · CEPED · Research and Development Center, Brazil

|                          | Dry apparent density (kg/m³) | Saturated apparent density (kg/m³) | Water absorption (%) | Apparent porosity (%) |
|--------------------------|------------------------------|------------------------------------|----------------------|-----------------------|
| Average value            | 2723                         | 2731                               | 0.305                | 0.830                 |
| Standard deviation       | 12.585                       | 13.062                             | 0.024                | 0.069                 |
| Coefficient of variation | 0.462                        | 0.478                              | 8.310                | 7.979                 |

## Axial compression resistance

NATURAL CONDITIONS

Method NBR 15845/2010 — Annexes D, E, F · CEPED · Research and Development Center, Brazil

|                          | Height (cm) | Width (cm) | Length (cm) | Axial compression resistance (MPa) |
|--------------------------|-------------|------------|-------------|------------------------------------|
| Average value            | 5.6         | 6.4        | 6.5         | 78.1                               |
| Standard deviation       | 0.153       | 0.321      | 0.500       | 6.650                              |
| Coefficient of variation | 2.744       | 4.997      | 7.692       | 8.518                              |

## Abrasion resistance

Method ASTM C 241-51 · CEPED · Research and Development Center, Brazil

|                          | Resistance index | Waste volume (cm <sup>3</sup> ) | Waste per area (cm <sup>3</sup> /cm <sup>2</sup> ) |
|--------------------------|------------------|---------------------------------|----------------------------------------------------|
| Average value            | 35.526           | 0.282                           | 0.0077                                             |
| Standard deviation       | 0.907            | 0.007                           | 0.0010                                             |
| Coefficient of variation | 2.554            | 2.551                           | 13.0044                                            |

## Hard body impact resistance

Method NBR 15845/2010 — Annex H · CEPED · Research and Development Center, Brazil

|                          | Width (cm) | Length (cm) | Height (cm) | Fall height, fissure (cm) | Fall height, rupture (cm) |
|--------------------------|------------|-------------|-------------|---------------------------|---------------------------|
| Average value            | 20.1       | 20.1        | 3.0         | 49                        | 54                        |
| Standard deviation       | 0.084      | 0.096       | 0.114       | 4.082                     | 4.082                     |
| Coefficient of variation | 0.417      | 0.477       | 3.751       | 8.332                     | 7.560                     |
| Rupture energy (J)       |            |             |             | 4.805                     | 5.295                     |

## Linear thermal expansion

Method NBR 15845/2010 — Annex C · CEPED · Research and Development Center, Brazil

|               | Expansion coefficient, warming — $\beta$ (10 <sup>-4</sup> mm/m °C) | Expansion coefficient, freezing — $\beta$ (10 <sup>-4</sup> mm/m °C) |
|---------------|---------------------------------------------------------------------|----------------------------------------------------------------------|
| Average value | 0.000196844                                                         | 0.000157304                                                          |

Values and units reproduced exactly as issued by the laboratory.

# Flexural resistance

THREE POINT BENDING FLEXURAL TEST

Method NBR 15845/2010 — Annexes D, E, F · CEPED · Research and Development Center, Brazil

|                          | Length (cm) | Height (cm) | Width (cm) | Flexural strength (MPa) |
|--------------------------|-------------|-------------|------------|-------------------------|
| Average value            | 20.1        | 10.1        | 5.0        | 9.9                     |
| Standard deviation       | 0.058       | 0.058       | 0.173      | 0.866                   |
| Coefficient of variation | 0.287       | 0.570       | 3.464      | 8.748                   |

SPECIFICATION NOTE

## Natural stone varies block to block.

These results describe the tested samples of Fusion. Final approval should include the physical slab, current technical documentation, sealer testing and your fabricator's review.

Rosso Stone

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Laboratory report issued January 2020. Testing was commissioned from the institutions named in each table and performed to the standards cited. Rosso Stone republishes these results as issued by the laboratory; values have not been recalculated or rounded. Decimal separators were converted to the period convention.