



TEST REPORT
MAA-FLOWRES-PG0123

Measurement of specific airflow resistance
according to UNI EN ISO 9053-2:2020

| Client | Pugi.rg srl Via Garibaldi, 33/b 51037 Montale (PT) | | | | | | | | |
|---|---|--------|--|--------------|-------|--------------------|----------------------------|---------------|---------------------------|
| Test date | 08/05/2023 | | | | | | | | |
| Test laboratory | Laboratorio di Acustica - Dipartimento di Ingegneria Università degli Studi di Ferrara Via Saragat, 1 – 44122 FERRARA | | | | | | | | |
| Measurement method | Alternating airflow method according to ISO 9053-2:2020 | | | | | | | | |
| Tested material | <table border="1"><thead><tr><th colspan="2">Fabric</th></tr></thead><tbody><tr><td>Model</td><td>Tiger</td></tr><tr><td>Composition</td><td>32% WO-26% WV-27%PA-15% SE</td></tr><tr><td>Weight</td><td>400 ± 7% g/m²</td></tr></tbody></table> | Fabric | | Model | Tiger | Composition | 32% WO-26% WV-27%PA-15% SE | Weight | 400 ± 7% g/m ² |
| Fabric | | | | | | | | | |
| Model | Tiger | | | | | | | | |
| Composition | 32% WO-26% WV-27%PA-15% SE | | | | | | | | |
| Weight | 400 ± 7% g/m ² | | | | | | | | |
| Flow velocity | 1.07 mm/s | | | | | | | | |
| Frequency of the piston movement | 2 Hz | | | | | | | | |
| Number of test specimens | 3 | | | | | | | | |
| Diameter of test specimen | 100 mm | | | | | | | | |

Picture of test specimens





Result calculation

$$R_s = \frac{\Delta p}{q_v} \cdot A$$

where:

Δp is the RMS air pressure difference, across the test specimen, due to the alternating airflow [Pa];

q_v is the RMS volumetric airflow rate, passing through the test specimen [m³/s];

A is the cross-section area of the test specimen, perpendicular to the direction of flow [m²].

Test equipment

| Name | Manufacturer | Model |
|--------------------|----------------|----------------|
| Microphone | Brüel & Kjær | 4165 |
| Preamplifier | Larson Davis | 900B |
| Acquisition System | NI | 4431 |
| Software | Materiacustica | Resitivity_MAA |

Environmental conditions

| | |
|----------------------|-----------|
| Temperature | 24°C |
| Relative Humidity | 44% |
| Atmospheric Pressure | 1008 mbar |

| Results | | | |
|---|------------|------------|------------|
| Specific airflow resistance R_s (Pa·s/m) | Specimen A | Specimen B | Specimen C |
| | 595 | 617 | 594 |
| R_s (Average) | 602 Pa·s/m | | |
| R_s (Standard deviation) | 13 Pa·s/m | | |

Ferrara, 11/05/23

The responsible for the test
Dr. Andrea Farnetani PhD