COMPARATIVE TORSIONAL PERFORMANCE

SLIMCORK®

Technical note based on external quality-control testing

Key result: Across four 44 x 24 mm closure groups tested under the same conditions, Slimcork recorded the highest mean torsional moment (29.5 daN.cm) and shear stress (10.8 daN/cm²).

29.5	10.8	25	4
mean torsional moment, daN.cm	mean shear stress, daN/cm²	stoppers per test group	closure groups compared

Test programme

Test element	Description
Test groups	Slimcork, Natural 1st grade reference, filled natural reference and micro-agglomerated reference
Sample and size	25 stoppers per group; nominal dimensions 44 x 24 mm
Method and conditions	NP 2803-6; 20 °C; 51% relative humidity
Inspection	2 February 2022; reports issued 3 February 2022
Testing organisation	Souto e Castro - Consultoria, Lda

Comparative results

Reading the table: first line = mean (standard deviation); second line = observed minimum-maximum. Each group comprised 25 stoppers.

Closure group	Torsional moment daN.cm	Rupture angle degrees	Shear stress daN/cm²
Slimcork	**29.5 (5.24)** **18.5-36.4**	**32 (8)** **13-47**	**10.8 (1.89)** **6.9-13.3**
Natural 1st grade	28.5 (2.95) 19.6-33.3	30 (5) 21-43	10.4 (1.07) 7.0-12.1
Filled natural reference	26.1 (4.82) 19.5-36.0	24 (5) 15-31	9.4 (1.72) 7.0-13.0
Micro-agglomerated	26.3 (0.94) 25.0-29.1	69 (6) 59-83	9.5 (0.33) 9.0-10.4

Technical interpretation

Natural 1st grade reference: Slimcork's mean results were closely aligned across all three measured parameters: 29.5 versus 28.5 daN.cm, 32° versus 30°, and 10.8 versus 10.4 daN/cm².

Filled natural reference: Slimcork recorded higher mean values for torsional moment, rupture angle and shear stress in the tested samples.

Micro-agglomerated reference: Slimcork recorded higher mean torsional moment and shear stress. The micro-agglomerated sample recorded a substantially higher rupture angle and lower result dispersion.

Observations against laboratory reference limits

Closure group	Moment below 20	Angle below 30°	Shear below 7.0
Slimcork	**2**	**7**	**1**
Natural 1st grade	1	12	0
Filled natural reference	2	22	1
Micro-agglomerated	0	0	0

Counts refer only to the 25 tested stoppers in each group. They are reproduced exactly as reported; displayed summary values may reflect rounding. The laboratory limits are reference values and are not presented here as an independent product-certification decision.

Scope and limitations

Sample scope: The reports cover one client-supplied set of 25 stoppers per group. Results describe the tested samples and should not be extrapolated to every production batch, stopper dimension or application.

Interpretation: This note reports observed group statistics. It does not claim universal superiority, wine-sealing performance or accredited product certification.

Source identification: Slimcork corresponds to the sample class designated 'Slim Cork' in report RCS-0173-2022.

Technical conclusion: Within the tested configuration, the results support describing Slimcork as a natural cork stopper with strong observed torsional performance. Its mean results were closely aligned with the Natural 1st grade reference, while its mean torsional moment and shear stress were the highest among the four tested groups.

Source reports

Souto e Castro - Consultoria, Lda: RCS-0171-2022 (Natural, Class 1st); RCS-0172-2022 (filled natural reference); RCS-0173-2022 (Slim Cork); and RCS-0174-2022 (micro-agglomerated). All reports were issued on 3 February 2022.

Document status: public technical summary compiled by Reliable Cork Solutions. Web edition 1.0 - 19 August 2026. reliablecorksolutions.eu