

PRECISION TESTING LABORATORIES

313 Hill Avenue; Nashville, TN 37210-4711
Phone 615-254-3401 Fax 615-254-3488

www.precisiontesting.com

CERTIFICATE OF CONFORMANCE

Third Party Certification

Performance Requirements for Protective (Safety) Toe Cap Footwear
ASTM F2413-18

Certification Date: 11-Oct-21 Report Date: 11-Oct-21 Report No.: 49370

Submitted by: Marseg S.A.

Identification: Style: 4035UAA

Also Cover Styles: 4035USA, 4035USE, 4035USL (as stated by client)

Size: BR 41 (equivalent to size 9 US per client)

Gender: Men's

<u>The submitted style(s) meet the performance requirements of ASTM F2413-18 as tested in accordance with ASTM F2412-18a in the following test categories:</u>

- Impact Resistant Footwear (I)
- Compression Resistant Footwear (C)

This certification applies to the particular sample tested and to the specific tests carried out by Precision Testing Laboratories as dated and detailed in the report referenced. It does not signify any measure of approval, control, supervision, or surveillance by Precision Testing Laboratories to this or any related product.

Certificate Authorized by:

Eric Olson, President



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CERTIFICATE OF CONFORMANCE

Third Party Certification

Performance Requirements for Slip Resistant Footwear ASTM F3445-21

Certification Date: 11-Oct-21 Report Date: 11-Oct-21 Report No.: 49369

Submitted by: Marseg S.A.

Identification: Style: 4035UAA

Also Cover Styles: 4035USA, 4035USE, 4035USL (as stated by client)

Size: BR 41 (equivalent to size 9 US per client)

Gender: Men's

<u>The submitted style(s) meet the performance requirements of ASTM F3445-21 in accordance with ASTM F2913 in the following test categories:</u>

• Slip Resistance

This certification applies to the particular sample tested and to the specific tests carried out by Precision Testing Laboratories as dated and detailed in the report referenced. It does not signify any measure of approval, control, supervision, or surveillance by Precision Testing Laboratories to this or any related product.

Certificate Authorized by: Signed:

Eric Olson, President



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Laboratory Report No. 49369

11-Oct-21

Mr. Claudio Gouveia Marseg S.A. Arsenio Gonzales 943 c/ Rio de Janeiro San Lorenzo- Para

Cc: joaob.silva@bsbsafety.com

PO #: n/a

Item: One and one-half pair of footwear

Identification: Style: 4035UAA

Also Cover Styles: 4035USA, 4035USE, 4035USL (as stated by client)

Size: BR 41 (equivalent to size 9 US per client)

Gender: Men's

Purpose: Coefficient of Friction for Evaluation of Slip Performance; ASTM F2913-19/ASTM F3445-21

| Test | Specimen Results | | | | | Average | Pass/Fail | | | | |
|---|---|------------|------|------|------|---------|-------------|--|--|--|--|
| Unit of Measure | 2 | | | | | | | | | | |
| Coefficient of Friction for Evaluati | on of Slip P | erformance | 3 | | | - | | | | | |
| ASTM F2913-19 | | | | | | | | | | | |
| ASTM F3445-21 | | | | | | | | | | | |
| Temperature: 72°F (50% RH) | | | | | | | | | | | |
| Vertical Force: 500 (± 25) N | | | | | | | | | | | |
| SATRA Quarry | | | | | | | | | | | |
| | Coefficient of Friction - Backward Forepart | | | | | | | | | | |
| <u>Dry</u> # 1 | 0.43 | 0.43 | 0.43 | 0.43 | 0.44 | 0.43 | Pass | | | | |
| # 2 | 0.43 | 0.43 | 0.43 | 0.47 | 0.43 | 0.44 | Pass | | | | |
| # 3 | 3 0.41 | 0.41 | 0.42 | 0.41 | 0.42 | 0.41 | Pass | | | | |
| | | | | | | | | | | | |
| <u>Wet</u> # 1 | 0.46 | 0.45 | 0.46 | 0.46 | 0.46 | 0.46 | Pass | | | | |
| # 2 | 2 0.41 | 0.41 | 0.41 | 0.42 | 0.42 | 0.41 | Pass | | | | |
| # 3 | 3 0.43 | 0.43 | 0.42 | 0.43 | 0.43 | 0.43 | Pass | | | | |
| | | | | | | | | | | | |
| | Coefficient of Friction - Forward Heel Slip | | | | | | | | | | |
| <u>Dry</u> #1 | 0.53 | 0.54 | 0.54 | 0.55 | 0.55 | 0.54 | Pass | | | | |
| # 2 | 2 0.52 | 0.52 | 0.53 | 0.53 | 0.53 | 0.53 | Pass | | | | |
| # 3 | 0.49 | 0.50 | 0.51 | 0.51 | 0.51 | 0.50 | Pass | | | | |
| | | | | | | | | | | | |
| <u>Wet</u> # 1 | 0.48 | 0.47 | 0.47 | 0.47 | 0.47 | 0.47 | Pass | | | | |
| # 2 | 0.44 | 0.44 | 0.44 | 0.44 | 0.45 | 0.44 | Pass | | | | |
| # 3 | 3 0.44 | 0.45 | 0.45 | 0.46 | 0.46 | 0.45 | Pass | | | | |
| | | | | | | | | | | | |

Requirement: ASTM F3445, Section 11.1: Each footwear specimen shall have a COF of no less than 0.40 when tested in both heel and forepart modes using wet and dry quarry tile. The COF is the arithmetic mean (average) of five consecutive results for each specimen when tested per Test Method F2913.

ASTM F2913 Reagent Application

SATRA Quarry = SATRA Quarry Tile.

Dry=

Section 10.4.2 - Distilled or deionized water shall be applied to the flooring to thoroughly wet Wet=

the surface

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Signed: Eric Olson, President



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Laboratory Report No. 4 11-Oct-21

49370

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Mr. Claudio Gouveia Marseg S.A. Arsenio Gonzales 943 c/ Rio de Janeiro San Lorenzo- Paraquay

Cc: joaob.silva@bsbsafety.com

PO #: n/a

Item: Three (3) pair of footwear

Identification: Style: 4035UAA

Also Cover Styles: 4035USA, 4035USE, 4035USL (as stated by client)

Size: BR 41 (equivalent to size 9 US per client)

Gender: Men's

Purpose: Impact Resistance, Compression Resistance; ASTM F 2412-18a/ASTM F2413-18

| Test | | Spe | cimen Res | ults | Average | Requirements | Pass / Fail |
|------------------------|--------------------|-------|-----------|-------|---------|-------------------------|-------------|
| | Unit of Measure | | | | | | |
| Impact Resistance | | | | | | Rating 75 | |
| ASTM F 2412-18a | | | | | | Male | |
| ASTM F 2413-18 | | | | | | | |
| | Resistance, in. | 0.625 | 0.737 | 0.686 | 0.683 | 0.500 min. | Pass |
| | Velocity, in./sec | 117.7 | 118.5 | 118.1 | 118.1 | 117.9+2.4"sec. | Pass |
| | velocity, ill./sec | 117.7 | 110.5 | 110.1 | 110.1 | 117.5 <u>-</u> 2.4 3ec. | 1 033 |
| Compression Resis | <u>tance</u> | | | | | | |
| <u>ASTM F 2412-18a</u> | | | | | | | |
| ASTM F 2413-18 | | | | | | | |
| | Resistance, in. | 0.889 | 0.857 | 0.860 | 0.869 | 0.500 min. | Pass |
| | | | | | | | |

Footwear complies with the performance requirements of ASTM F 2412 / 2413 for Protective Footwear in the categories tested above.

Test Note: The test specimens were conditioned and tested in accordance with ASTM F2412-18a Standard Conditions of 22°C (± 2°C) and 50% RH (± 5%).

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Signed

Eric Olson, President