FIRELAB

TITLE	:	Evaluation of the small-scale fire properties of the **Rock Filla Mining Tamping/Stemming Foam** supplied by **Sibambene Mining Supplies**
REQUESTED BY	:	**Sibambene Mining Supplies** PO Box 569 **LYDENBURG** 1120
CONTRACT No	:	FTC 20/102
ISSUE No	:	1
DATE	:	03 September 2020

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SCOPE

This report contains the small-scale test results of the **Rock Filla Mining Tamping/Stemming Foam** when tested in accordance with the **SANS 120** test protocol.

Section 1: Product information and photographic identification of the specimen

Section 2: Test method used to evaluate the Flame Resistance of the product.

Section 3: Test results

Section 4: Discussion of the results

Section 5: Conclusion

Annexure "A": Company information

Annexure "B": Product information and Material Safety Data Sheets (MSDS) supplied by **Sibambene Mining Supplies**

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1. PRODUCT DESCRIPTION

Sibambene Mining Supplies delivered ten stemming specimens for testing.

The stemming product was identified as follows:

Product name:	Rock Filla Mining Tamping/Stemming Foam
Product manufacturer:	Ilike Group
Filler:	Polyurethane Foam
Product Code:	N/A
Manufacturing Date:	15 January 2020
Batch No:	N/A
Diameter:	43 mm
Length:	300 mm
Weight:	± 20 g*
Intended Use:	Underground stemming/tamping foam

*The weight of the specimen was determined by **FIRELAB**

Figure 1.1: Identification of the specimen received for testing

2. FLAME RESISTANCE OF STEMMING: SANS 120:2009

2.1. TEST METOD

A specimen was secured in the test frame. The frame was suspended in a 300 mm x 300 mm x 2.1 m high metal chimney along its length approximately 19 mm above the Bunsen burner.

A Bunsen burner with a luminous flame length of 38 mm was applied at an angle of 25°, 19 mm below the bottom edge of the specimen for a period of 12 seconds.

The flame is removed after the 12 seconds and observations are made related to the duration of flaming and propensity to self-extinguish, as well as the presence and behaviour of flaming droplets.

The specimen shall be considered self-extinguishing if all of the below criteria are met:

- If the duration of flame and glow for an individual test specimen does not exceed 2 seconds (after the 12 second exposure period)
- If any portion of residues that break off or drip from the test specimen during or after exposure to the flame shall not continue to burn after reaching the floor
- Should the entire length of the test specimen not be consumed during the 12 seconds of flame exposure to the specimen.

2.2. TEST EQUIPMENT

- Stopwatch
- **SANS 10177 – 9** Test facility chimney

3. TEST RESULTS

Observations made during the tests conducted on 31 August 2020.

Sibambene – Rock Filla Mining Tamping/Stemming Foam

Specimen number	Ignition (mm:ss)	Time to extinguishment (mm:ss)	Total burn time (mm:ss)	Burn time after 12 seconds (mm:ss)	Flaming droplets
1	0:01	0:12	0:11	0:00	No
2	0:01	0:12	0:11	0:00	No
3	0:00	0:12	0:12	0:00	No
4	0:00	0:12	0:12	0:00	No
5	0:00	0:12	0:12	0:00	No
6	0:01	0:13	0:12	0:01	No
7	0:00	0:12	0:12	0:00	No
8	0:01	0:14	0:13	0:02	No
9	0:00	0:12	0:12	0:00	No
10	0:00	0:14	0:14	0:02	No

Note(s): Average Ambient Temperature during test = 22.3 °C

*Table 3.1: **SANS 120** test results*

4. DISCUSSION OF RESULTS

The **Rock Filla Mining Tamping/Stemming Foam** specimens ignited almost instantly upon flame application, but no specimen sustained flaming for longer than 2 seconds after the Bunsen burner flame was removed. There were also no flaming droplets that fell to the ground during the test and no specimen was consumed in its entire length during the period that the flame was applied.

The **Rock Filla Mining Tamping/Stemming Foam** is combustible, but self-extinguishing.

5. CONCLUSION

The test results of the **Rock Filla Mining Tamping/Stemming Foam** supplied by **Sibambene Mining Supplies** is as follows:

- **SANS 120:** Flame Resistance » **Self-extinguishing**

Note: The **Rock Filla Mining Tamping/Stemming Foam** is combustible and therefore storage should be managed in accordance with the relevant safety requirements that may be applicable at the respective mine.

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