

Flame Retardants for Textiles

Description of test methods and their application

Austrian – Standards

- ÖNORM S 1450; 1979
- ÖNORM B 3820; 1981
- ÖNORM B 3822; 1984

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ÖNORM S 1450; 1979

1. Scope:

Methods for assessing the burning behaviour of fabrics, knitgoods, braidings, felt cloth, nonwoven fleece or other textile fabrics – also for bonded, coated, laminated or flocked textile fabrics. Not applicable to textile floor coverings.

2. Preparation of specimens:

10 specimens each of 440 mm x 104 mm in warp and weft direction marker thread A 150 mm, marker thread B 400 mm away from the lower edge

3. Test procedure:

- place specimen in a vertical position
- 40 mm flame height to be adjusted
- burner inclined at 45°
- . flame application time 3 and 15 s
- . flame application 20 mm above the lower edge

4. Apparatus:

- flame test cabinet acc. to DIN 50050
- burner acc. to DIN 50051 with propane gas

5. Assessment:

Defined requirements of classification are not available. The test report shall include the following information – separately for both ignition times :

- burning time
- flame spread time
- afterflame time
- afterglow time
- damaged length

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ÖNORM B 3820; 1981

1. Scope:

Applicable to flat objects used as drapes or other decorative purposes. Not suitable for wall and ceiling coverings.

2. Preparation of specimens:

3 specimens each of 1000 mm x 700 mm

3. Test procedure:

- the specimen is folded and clamped in the specimen holder. 2 marker threads fitted horizontally 500 mm above the specimen
- measure the time that it takes the flame to progress from the ignition until severance of the marker thread
- calculate the flame spread time: quotient of measured distance 1 or 2 and the corresponding burning time in mm/sec.
- at the same time assessment of formation of smoke and melt drip

4. Apparatus:

ÖNORM B 3800 with propane gas

5. Assessment:

Flammability class B1: flame spread time 0

Flammability class B2: 1. flame spread time : no requirements

2. flame spread time : < 21.3 mm/sec

Flammability class B3: other fabrics with burning behaviour worse than B1 and B2

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ÖNORM B 3822; 1984

1. Scope:

For furnishing and other decorative articles

2. Preparation of specimens:

3 specimens each of 1000 mm x 700 mm

3. Test procedure:

- Vertical test with a series of burners (6 nozzle slits, flame height 120 mm, burner inclined upwards at 30°, ignition time 3 min, edge and surface ignition
- at the same time assessment of smoke production and melt drip.

4. Apparatus:

ÖNORM B 3800 with propane gas

5. Assessment:

- The testing acc. to ÖNORM B 3822 is in compliance with the standard if
- there is no ignition or burning outside the direct area of flame application
 - the duration of flame is max. 5 sec. and duration of afterglow max. 30 sec
 - the decorative article does not form melt drip
 - the decorative article meets the smoke production class Q 1 acc. to ÖNORM B 3800 part 1

If one of these requirements is not met, the article shall be deemed not to comply with the requirements of the ÖNORM B 3822.