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Black EPDM Flame Retardant Rubber 70° Shore To EN45545 HL3 WJ172

| WJ172 EPDM EN 45545-2 + A1 2015 - Halogen Free | | | | |
|--|--|-------------------|--|-----------------------|
| PROPERTIES | TEST METHOD | VALUES | TEST METHOD | VALUES |
| | | FPS UNITS | | METRIC UNITS |
| SPECIFIC GRAVITY | DIN 53508 | 1.45 ± 0.05 | ASTM D297 | 1.45 ± 0.05 |
| HARDNESS | DIN 53505 | 70 ± 5 Sh A | ASTM D2240 | 70 ± 5 Sh A |
| TENSILE STRENGTH (min) | DIN 53504 | 995 PSI | ASTM D412 | 70 kg/cm ² |
| ELONGATION AT BREAK (min) | DIN 53504 | 400% | ASTM D412 | 400% |
| COMPRESSION SET (70°C/24 hrs/25% set) (max) | DIN 53517 | 25% | ASTM D395 METHOD B | 25% |
| TEAR RESISTANCE (Angular) min | DIN 53515 | 112 Lbs/Inch | ASTM D624 | 20 Kg/cm |
| CHANGE IN PROPERTIES | | | | |
| HEAT AGEING (168 hrs. AT 85°C) | | | ASTM D573 | |
| --- HARDNESS (Pts) | | + 10 (Max) | | + 10 (Max) |
| --- TENSILE STRENGTH (%) | | + 15 / -15 | | + 15 / -15 |
| --- ELONGATION AT BREAK (%) | | + 10 / -30 | | + 10 / -30 |
| POLYMER | | 100 % EPDM | | 100 % EPDM |
| OZONE 200 PPHM 96 H 40°C 20 % | | NO CRACKS | ASTM D 1149 | NO CRACKS |
| HAZARD LEVEL | EN 45 545 | HL1 | HL2 | HL3 |
| FIRE RESISTANCE | BS 476, Part 7 Vehicle cat. La acc. To BS 6853 | CLASS 2 | BS 476, Part 7 Vehicle cat. La acc. To BS 6853 | CLASS 2 |
| CHEMICAL RESISTANCE | | | | |
| --- OZONE | | VERY GOOD | | VERY GOOD |
| --- DILUTE ACIDS AND BASES | | GOOD | | GOOD |
| --- CONCENTRATED ACIDS AND BASES | | MEDIUM | | MEDIUM |
| --- OILS | | MEDIUM | | MEDIUM |
| TEMPERATURE RANGE | | -30° to + 100°C | | -30° to + 100°C |
| COLOUR | | BLACK/ GREY/ BLUE | | BLACK/ GREY/ BLUE |

Warrington Fire Test for Determination of the Burning Behaviour of Floorings

Part 1 Determination of the Burning Behaviour Using a Radiant Heat Source

BS EN ISO 9239-1 2010

Objective: To Determine the performance of the following product when tested in accordance with BS EN ISO 9293-1: 2010

| Generic Description | Product reference | Thickness | Weight per Unit Area or density |
|---|--|----------------------|---------------------------------|
| Rubberised floor covering For use in railway coaches & metro coaches adhered to a birch plywood substrate | "ICF/MD/SPEC-354" (Flooring Only) | 14.89mm* | 9.80kg/m ² * |
| Individual Components used to manufacture composite | | | |
| Rubber Flooring | "ICF/MD/SPEC-354" | 2mm | 2.5-3.4kg/m ² |
| Adhesive | "Adhesive Fevicol SR 998 IS & Fevicol Hardner C" | Unwilling to provide | Unwilling to provide |
| Plywood | "Birch Plywood (WBP grade)" | 12mm | Unable to provide |
| *determined by Warrington Fire | | | |

Test Results:

Orientation of test specimens: No Direction
Average critical radiant flux = 8.05W/M²
Average smoke development = 28.92% Min

Warrington Fire Test for Determination of the Burning Behaviour of Floorings

Part 2 Determination of Optical Density by a Chamber Method and "T11:02" (Gas Analysis in the Smoke Box ISO, Using FTIR Technique)

EN 45545-2: 2013 + A1: 2015

Objective: To Assess the results of tests performed in accordance with methods T04, T10.03 and T11.02 as defined in EN45545-2: 2013 + A1:2015 at and irradiance level of 25W/m² with a pilot flame, on specimens of a product and to provide an opinion of compliance with the requirements, as defined in EN 45545-2: 2013 + A1: 2015.

| Generic Description | Product reference | Thickness | Weight per Unit Area or density |
|---|--|----------------------|---------------------------------|
| Rubberised floor covering For use in railway coaches & metro coaches adhered to a birch plywood substrate | "ICF/MD/SPEC-354" (Flooring Only) | 14.89mm* | 9.80kg/m ² * |
| Individual Components used to manufacture composite | | | |
| Rubber Flooring | "ICF/MD/SPEC-354" | 2mm | 2.5-3.4kg/m ² |
| Adhesive | "Adhesive Fevicol SR 998 IS & Fevicol Hardner C" | Unwilling to provide | Unwilling to provide |
| Plywood | "Birch Plywood (WBP grade)" | 12mm | Unable to provide |
| *determined by Warrington Fire | | | |

Opinion: We consider the results of the tests confirmed in reports referenced 413221 and 413222 to the test methods detailed above demonstrate that the product as tested, complies with requirements, R10 (detailed in table 5 of EN 45545-2: 2013 + A1: 2005) for a HL1, HL2 and HL3 hazard level classification.

Warrington Fire Test for Determination of the Burning Behaviour of Floorings

Part 2 Determination of Optical Density by a Chamber Method and "T11:02" (Gas Analysis in the Smoke Box ISO, Using FTIR Technique)

EN 45545-2: 2013 + A1: 2015

Test Methods T10.03 & T11.02

Objective: To determine the toxic fume and optical density produced from the following product when tested in accordance with methods T10.03 and T11.02 as defined in BS EN 45545-2:2013 + A1: 2015 at an irradiance level of 25kW/M² with a plot flame.

| Generic Description | Product reference | Thickness |
|---|---|----------------------|
| Rubberised floor covering For use in railway coaches & metro coaches adhered to a birch plywood substrate | "ICF/MD/SPEC-354" (Flooring Only) | 14.89mm* |
| Individual Components used to manufacture composite | | |
| Rubber Flooring | "ICF/MD/SPEC-354" | 2mm |
| Adhesive | "Adhesive Fevicol SR 998 IS & Fevicol Hardner C" | Unwilling to provide |
| Plywood | "Birch Plywood (WBP grade)" | 12mm |
| *determined by Warrington Fire | | |

Summary of Test Results:

The average Ds(max) value determined within 10 minutes was 137

The average CIT value at four minutes was 0.10

The average CIT value at eight minutes was 0.23

Disclaimer
Please note, failure to select the correct materials or products we supply ("the Products") may result in damage to plant, equipment or property. In some instances, it may cause death or personal injury. We are not designers and do not give advice about design related matters concerning the Products. We can help and assist with the technical specifications for the Products. In specific applications, particularly where critical conditions exist, we will try to assist you within the limitations of the services that we offer. All information supplied by us is intended as technical co-operation outlining the specifications of the different Products which we supply. To the extent permitted in law, no warranty is given in respect of any information supplied by us. The customer must satisfy themselves as to the suitability of the Products for their intended application and use. The correct fitting of Products is the responsibility of the customer. Your statutory rights remain unaffected. Save in respect of death, personal injury or fraud, our entire liability to you, however arising from the supply of Products shall be limited to the £10M indemnity amount provided by our insurers.