



Ministry of Housing,
Communities &
Local Government

GRP composite fire doors test results



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Purpose

This test data is provided to inform building owners risk assessments and plans for fitting and repair or replacement of fire doors. Details within this note provide important context for the results supplied which represent only a sample of the market and are only relevant for the specific model of door set tested from the manufacturer. This note does not make any recommendations for fitting, repair or replacement. That is a matter for individual building owners and their advisers.

The sample of GRP composite fire doors failed for a range of reasons including but not restricted to performance at the glass/glazing, letter box and the door frame. There was some evidence of over-reliance on written assessments being used in lieu of primary tests for significant changes in hardware and ironmongery, and for the reverse side of the door. These findings clearly indicated broader failings within the industry.

It was concluded on the advice of the Expert Panel that there was a performance issue with GRP composite 30 minute fire doors across the market. Actions outlined below have been taken across the GRP composite market to raise standards. Test results presented are from the sample of the market tested.

Background

1. The Metropolitan Police's investigation into the Grenfell Tower fire involved a thorough examination of the tower, including front doors to flats. The Metropolitan Police informed the Ministry of Housing, Communities and Local Government (MHCLG) of a failed furnace test¹ for a GRP² composite glazed front fire door from Grenfell Tower. The test revealed that the door was installed as providing 30 minutes of fire resistance but failed the test after 15 minutes.
2. The manufacturer of the door was identified as Manse Masterdor, a company that had ceased trading in November 2014 and was in voluntary liquidation.
3. As soon as MHCLG were informed of the test result the department immediately sought the advice from its independent Expert Panel, which was appointed following the Grenfell Tower fire, to consider whether there were wider public safety implications.
4. The Panel consulted with representatives from the Metropolitan Police, the Government's Chief Scientific Advisors and the National Fire Chiefs Council (NFCC). Following this, the Panel advised that the risks to public safety remained low and that current fire safety advice should not be changed, and that further investigations into fire doors from Manse Masterdor should be undertaken by MHCLG.
5. The Panel also advised that the investigation should seek to understand the scale of sub-standard fire doors through testing the wider GRP composite fire doors market.

¹ BS EN1634-01: 2014

² Glass Reinforced Plastic

Testing

6. A planned programme of testing was established for a range of GRP composite doors produced by Manse Masterdor and wider GRP manufacturers between February and August 2018.
7. All tests were undertaken to British Standard BS-476:22³ in a UKAS accredited test house on complete door sets facing into and away from the furnace. The exception was Manse Masterdor doors which were removed from *insitu* without an identical door. This only allowed testing on one side.

Test conclusions

8. In total 20 different Manse Masterdor doors were furnace tested. The Expert Panel concluded that there was a performance issue with Manse Masterdor fire doors which could not be relied on to meet the required standard.
9. The subsequent wider GRP composite testing included 11 fire door tests, testing 22 individual fire doors from 8 further different manufacturers, on both sides of the door.
10. There were no obvious distinguishing characteristics that may have contributed to the cause of failure and no pattern in terms of the mode of failure.
11. It was concluded on the advice of the Expert Panel that there was a performance issue with GRP composite 30 minute fire doors across the market.
12. Two tests failed in under 15 minutes from Birtley Group and Britdoors. Both companies highlighted a production flaw in setting the letterbox within the specific batch of doors tested.

Remediation

13. MHCLG immediately notified Trading Standards of all companies whose fire doors failed the furnace test. Local Trading Standards are working with the individual companies concerned. All companies were asked to write to their customers advising them of the failure and asking them to conduct a new building safety risk assessment.
14. The three providers of GRP composite door blanks in the UK: Distinction Doors, DOORCO and Capstone voluntarily agreed with MHCLG to stop production and sale of any blanks with immediate effect, which consequently prevented any new GRP composite doors from entering the market.
15. The Association of Composite Door Manufacturers (ACDM) further voluntarily agreed with MCHLG that all GRP composite fire doors sold from their members would be removed from the market until they could demonstrate meeting the required standard.
16. ACDM have committed to acting regarding doors *in situ* and are currently producing a plan of action for repair and replacement of doors found not to meet the required standard.

³With the exception of 2 of the Manse Masterdor tests highlighted on the table which were conducted to the EU standard BS EN 1634-01: 2000.

Advice

17. MHCLG have produced a fire doors FAQ document shared alongside this document.
18. The Expert Panel have also issued guidance for building owners looking to fit or replace fire doors: <https://www.gov.uk/government/publications/advice-for-building-owners-on-assurance-and-replacing-of-flat-entrance-fire-doors>.
19. Building owners should assure themselves that products being used in their buildings meet the appropriate standards. Where doors that have failed tests are installed, building owners should review their building fire risk assessments and consider whether and how quickly these doors should be replaced.