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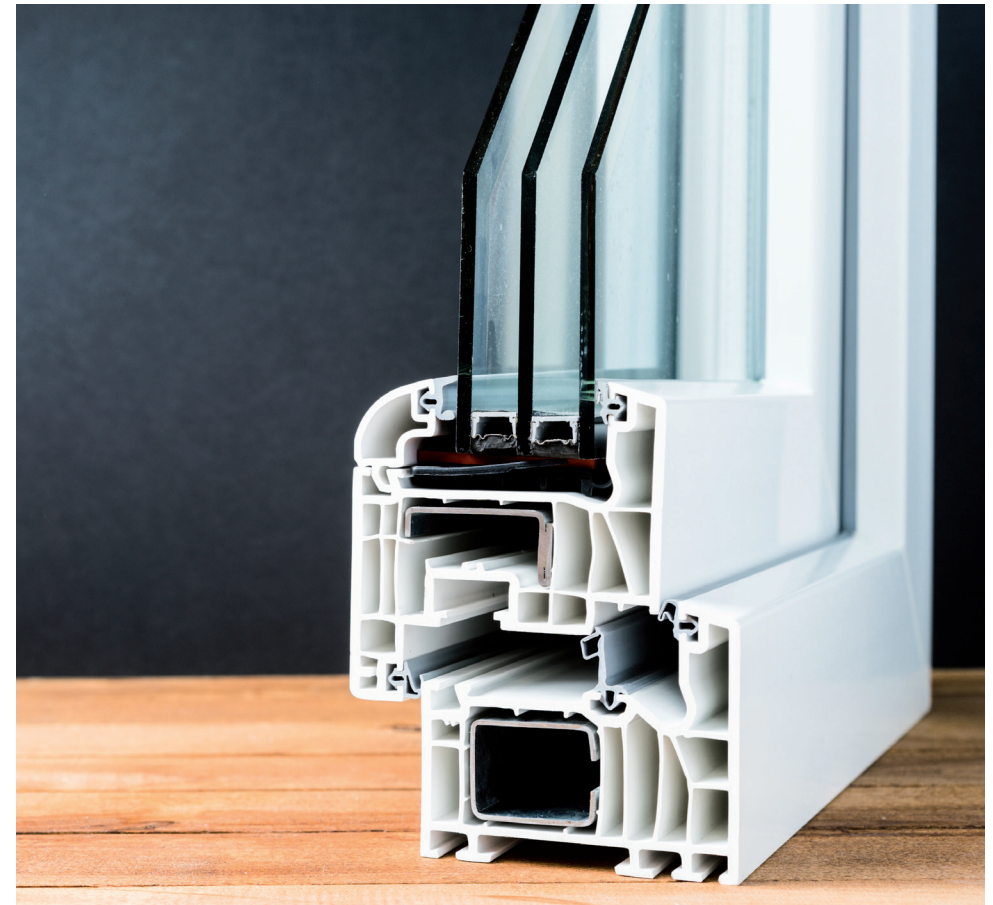
Glass and Glazing Federation

INDUSTRY GUIDANCE
REFERENCE NO: 6.16
JULY 2021

Product Substitution

and its effect on Kitemark™ and other 3rd Party Certification

Produced in collaboration with **bsi.**



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1. Foreword

Now more than ever before, products used in the Construction Industry are under close scrutiny. Companies in the industry must ensure products are “fit for purpose”, have been tested and are proven to meet the requirements for the intended application. Recent history shows that failure to provide the right products and associated information can have devastating consequences including serious injury and/or loss of life.

It is GGF Members’ duty of care to ensure that products will perform to the required standards and specification. The substitution of structural and safety critical components can effect both short and long term performance of windows/doorsets therefore, changes and the associated risks need careful consideration by trained/competent individuals.

2. Introduction

This guidance document clearly and accurately informs window and doorset fabricators of their roles and responsibilities in ensuring that products which are placed on the market consistently meet the claimed performance standards as tested and/or certified by a 3rd Party such as BSI Kitemark™.

2. Scope

This document will present the possible issues and problems that can occur when substituting products in place of those of a System House, component supplier or other manufacturer which are approved, tested and/or certified.. This is particularly important when 3rd party type testing is cascaded and is used to support product safety and performance claims for certification and/or regulatory compliance.

3. Definitions

Full type test

Verifies the safety and performance of both the system design and fabricated window/ doorset. Generally, type tests are undertaken by a component or system supplier to assist window/ doorset fabricators with a complete design which can be underwritten as part of a contract or specification highlighting components required for manufacture and underpinning product safety and performance for product warranties.

A critical condition of achieving and maintaining Certification in this way is when placing products on the market with certification claims, exactly the same components (eg: profiles, hardware, reinforcement, glazing, weather stripping and fixing components for windows/doorsets) must be used as specified and tested by the systems supplier,

component or other manufacturer. This route can also enable a window/doorset fabricator to use the BSI System Supplier Support Programme (SSSP) route to Kitemark™ certification when sole sourcing a system.

However full type tests can also be completed independently of the system supplier, component or other manufacturer by window/doorset fabricators or as a joint venture with component manufacturers or component product designers. Further details of fabricator/manufacturer responsibilities in this scenario are covered in section titled; fabricator/component or other manufacturer type test and both routes are permitted by Kitemark™ certification. Full type tests determine the safety and performance characteristics and maximum size capability in the case of window and door systems.

NOTE 1: An approved component list is often available via the system supplier or component manufacturer that includes a list of the tested options and the safety and performance characteristics they achieved. These declared performance characteristics may only be valid if the recommended components are used without substitution.

NOTE 2: Where there is deviation from system supplier, component or other manufacturer type tests using substituted products, it may also be prudent to check validity of warranties should claims arise.

Fabricator/component or other manufacturer type test

This verifies the capability of a company to fabricate windows and doorsets in accordance with the system suppliers, component or other manufacturers technical file and fabrication manuals. In order to verify fabrication/manufacture in-line with this route, it is not necessary to test to all the clauses of the relevant standards, providing the design and components of the manufactured or fabricated product remain the same as those covered by the full type testing already undertaken. The quantity of samples required for testing are reduced as are the clauses that the samples are tested to.

If components are out of specification from the original type test or when using components that differ from a system supplier or component manufacturer type test, a window/doorset fabricator is responsible for their own system design by completing the full type tests as described above, they are also responsible for producing and maintaining their own technical file

and fabrication manuals as a part of their factory product control or quality management system. If there are any industry standard changes that require additional testing, this will also be the responsibility of the window/doorset fabricator to maintain compliance.

4. Guidance

What would impact the validity of your Certification?

If a material supplier alters a product specification, a component supplier, manufacturer or fabricator changes, modifies or decides to substitute components in the system design which are different to those which were tested, your Kitemark™ certification using the original type test data will no longer be valid and will need to be repeated.

When planning changes to product specifications such as value engineering projects, consideration should be given to retesting and certification and costed accordingly. If in doubt of how changes or modifications can have a critical impact on product safety and performance without the required testing and type approval, reference can be made to Appendix A, Table A.1 of BS EN 14351-1:2006+A2:2016 to verify if re-testing and certification approval is required.

Changes or modifications to materials can affect characteristics such as structural or thermal performance and re-engineering of cross sections of profiles, or reinforcements can affect mechanical strength, security and weather performance.

Furthermore table A.1 of BS EN 14351-1:2006+A2:2016 clarifies interdependencies between 21 performance characteristics with components such as hardware, weather stripping, materials, profiles and glazing should they be changed or modified.

Additionally, having changed the system design, it may now be necessary to prove the safety and performance of these design changes with full type testing to include all clauses of BS 6375 Parts 1, 2 and 3 and PAS 24.

Further guidance on the correct specification and selection of materials and components meeting the requirements of Kitemark™ can be found by referring to BS 7412:2007. An indication of the number of window and doorset samples, product types and sizes required for type approval can be derived from Annex A, clause A.1 of material specific standards, BS 7412:2007 (PVC-U), BS 4873:2016 (aluminium) and BS 644:2012 (timber).

Consideration should also be given where type test evidence is commonly cascaded to support compliance with Building Regulations (e.g. Approved Document L and Approved Document Q) and/or the Construction Products Regulation (i.e. UKCA or CE Marking) as product substitution could invalidate the manufacturer’s safety and performance claims.

Bibliography

BS EN 14351-1:2006+A2:2016. Window and doors. Product standard, performance characteristics. Part 1. Windows and external pedestrian doorsets.

BS 6375-1:2015+A1:2016. Performance of windows and doors. Classification for weathertightness and guidance on selection.

BS 6375-2:2009. Performance of windows and doors. Classification for operational strength characteristics and guidance on selection.

BS 6375-3:2009+A1:2013. Performance of windows and doors. Classification for additional performance characteristics and guidance on selection and specification.

PAS 24:2016. Enhanced security performance requirements for doorsets and windows in the UK. Doorsets and windows intended to offer a level of security suitable for dwellings and other buildings exposed to comparable risk.

BS 7412:2007. Specification for windows and doorsets made from unplasticized polyvinyl chloride (PVC-U) extruded hollow profiles. Specification.

BS 4873:2016. Aluminium alloy windows and doorsets-specification

BS 644:2012. Timber windows and doorsets-Fully finished factory-assembled windows and doorsets of various types-specification.

Approved Document L - Conservation of Fuel and Power

Approved Document Q – Security. Building Regulation guidance for security requirements of windows and doors in England and Wales