



# Mechanical impact and cutting test report

Test standard: [Appendix D and E of AS/NZS 3013:2005](#)

Test sponsor: [TransTech Electronic Controls Pty Ltd](#)

Product: [BPG6-F junction box](#)

Job number: [FRT210308](#)

Test date: [15 November 2021](#) Revision: [R1.0](#)

Warringtonfire: accredited for compliance with ISO/IEC 17025 – Testing



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## 1. Introduction

This report documents the findings of the mechanical tests of an electrical wiring system in accordance with appendix D and E of AS/NZS 3013:2005. The testing was done on 15 November 2021.

Warringtonfire performed the mechanical impact test at the request of the test sponsor listed in Table 1. Melbourne Testing Services performed the mechanical cutting test on behalf of Warringtonfire.

**Table 1 Test sponsor details**

Test sponsor	Address
TransTech Electronic Controls Pty Ltd	Unit 2/48 Dallamarta Road Wangara WA 6065 Australia

## 2. Test specimen

Table 2 lists the findings of the survey of the specimen tested by Warringtonfire Australia and Melbourne Testing Services.

**Table 2 Specimen description**

Item	Description
Product	ABTECH BPG6-F terminal junction box
Material	Glass reinforcement polyester (GRP)
Overall size	122 mm wide x 120 mm length x 90 mm high x 5.5 mm thick

## 3. Test results

Table 3 summarises the results for the mechanical impact test done by Warringtonfire.

Table 4 summarises the results for the mechanical cutting test done by Melbourne Testing Services on behalf of Warringtonfire.

**Table 3 Summary of mechanical impact test results**

Specimen temperature (°C)	Impactor mass (kg)	Drop height (mm)	2 <sup>nd</sup> Characteristic numeral	Mode of failure
-25	11.1	139	2	-
23	11.1	139	2	-
110	11.1	139	2	-

**Table 4 Summary of mechanical cutting results**

Specimen temperature (°C)	Cutting load* (kN)	2 <sup>nd</sup> Characteristic numeral
-25	>6	5
23	>6	5
110	>6	5

\*Minimum cutting load of four cutting test at the nominated temperature.

## 4. Wiring system classification

Based on the test results shown in Table 3 and Table 4 and using the classification scheme given in AS/NZS 3013:2005, a Second Characteristic Numeral Classification – for the protection against mechanical damage in accordance with AS/NZS 3013:2005, table 3.2, for the Cable Group<sup>1</sup> 2, 3 and 4, ABTECH BPG6-F terminal junction box, over an operating temperature range of -25 °C to +110 °C – can be assigned as 2.

AS/NZS 3013:2005 Second Characteristic Numeral Classification: 2

<sup>1</sup> as defined in Appendix A AS/NZS 3013:2005

## 5. Application of test results

This report is based on the results of a mechanical impact test (see Table 3) performed by Warringtonfire and a mechanical cutting test (see Table 4) performed by Melbourne Testing Services on behalf of Warringtonfire. It does not provide an endorsement by Warringtonfire of the performance of the actual products supplied.

**The text in the paragraphs below has been taken from AS/NZS 3013:2005.**

The conclusions in this test report relate to the configurations as detailed and should not be applied to any other configuration or other cable construction or type.

The results of these tests may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all conditions.

AS/NZS 3013:2005 applies only to the testing and classification of wiring enclosure systems elements that are in all other respects safe and suitable for their intended use and comply with other relevant Standards.

A wiring enclosure system is then assembled using the individual elements and a fire and mechanical performance classification for the assembled system is established.

The fire protection classification of a wiring enclosure system shall not be greater than the fire protection classification of its lowest classified element.

The mechanical protection classification of an assembled wiring system shall not be less than the mechanical protection classification of its highest classified element. For example, if a cable of low classification is protected by an enclosure of higher classification the assembled system is assigned the classification of the enclosure.

The use of wiring enclosure system elements tested in accordance with AS/NZS 3013:2005 may not be necessary where parts (or components) of building construction provide satisfactory protection against fire conditions and mechanical damage.

The degree of protection against fire conditions and mechanical damage required of a wiring enclosure system or its elements depends on the application. Appendix F of AS/NZS 3013:2005 describes methods of protecting wiring system elements against the fire conditions and mechanical damage for which testing may not be considered necessary.

## Quality management

Revision	Date	Information about the report			
R1.0	13 December 2021	Description	Initial issue		
		Name Signature	Prepared by	Reviewed by	Authorised by
			Patrick Chan	Mandeep Kamal	Mandeep Kamal
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