
Terminal Faston 6,35 series Low Insertion Force

1. SCOPE**1.1 Content**

This specification covers the performance requirements, tests and quality requirements for Faston terminals PNs 444334 and 444335 that mate with tab size 6,3mm with hole and that is according to the commercial standard IEC .These terminals are suitable for Consumer Goods applications in which low insertion forces are needed .

1.2 Qualification

When tests are performed on the subject product line , the procedures specified in this Product Specification shall be used . All inspections shall be performed using the applicable inspection plan and product drawing .

2. APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein . In the event of conflict between the requirements of this specification and the product drawing , the product drawing shall take precedence . In the event of conflict between the requirements of this specification and the referenced documents , this specification shall take precedence .

2.1 TE Specifications

- 109-1 *General Requirements of Test Specifications*
- 114-2036 *Faston Receptacle Contacts, Application of .*

2.2 Commercial Standards

- IEC Publication 60512

3. REQUIREMENTS**3.1 Design and Construction**

Terminals shall be of the design , construction and physical dimensions specified on the applicable product drawing .

3.2 Materials

- Terminals *Brass 100-086 , Temper 4m , tinplated and unplated .*

3.3 Ratings

- Current / Voltage : 240 Vac at 16 amperes maximum
- Operating Temperature : -55°C to 105°C

3.4 Performance and Test Description

Terminals shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1.

3.5 Test Requirements and Procedures Summary

Test Description	Requirements	Procedure																		
Examination of Product	Meet requirements of product drawing .	Visual , dimensional and functional per applicable inspection plan .																		
Electrical																				
Termination Resistance , Rated Current	<table border="1"> <thead> <tr> <th>Wire Size</th> <th>Test Current</th> <th>Resistance (milliohms) max.</th> </tr> <tr> <th><u>mm²</u></th> <th><u>Ampere</u></th> <th><u>Initial</u></th> </tr> </thead> <tbody> <tr> <td>0,5</td> <td>4</td> <td>2,1</td> </tr> <tr> <td>0,75</td> <td>6</td> <td>1,6</td> </tr> <tr> <td>1,0</td> <td>8</td> <td>1,3</td> </tr> <tr> <td>2,5</td> <td>16</td> <td>0,8</td> </tr> </tbody> </table>	Wire Size	Test Current	Resistance (milliohms) max.	<u>mm²</u>	<u>Ampere</u>	<u>Initial</u>	0,5	4	2,1	0,75	6	1,6	1,0	8	1,3	2,5	16	0,8	Measure potential drop of mated contacts according to IEC 60512-2-2 . See figure 4 .
Wire Size	Test Current	Resistance (milliohms) max.																		
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0,75	6	1,6																		
1,0	8	1,3																		
2,5	16	0,8																		
Temperature Rise (a)	Temperature rise of any individual termination shall not exceed 30°C. (Temperature Rise = Temp of Conn. - Room Temp)	Temp Rise at rated current ; Procedure according to IEC 60512-5-1, test 5a .																		
Current Cycling	<p>After 24 cycles and at the completion of 500 cycles , the following requirements shall be met</p> <p>a) Termination resistance shall not exceed the following limits:</p> <table border="1"> <thead> <tr> <th><u>Wire Size (mm²)</u></th> <th><u>Resistance (milliohms max.)</u></th> </tr> </thead> <tbody> <tr> <td>0,50</td> <td>2,7</td> </tr> <tr> <td>0,75</td> <td>1,9</td> </tr> <tr> <td>1</td> <td>1,6</td> </tr> <tr> <td>2,5</td> <td>1</td> </tr> </tbody> </table> <p>b) Temperature Rise of each termination shall not exceed 85°C .</p>	<u>Wire Size (mm²)</u>	<u>Resistance (milliohms max.)</u>	0,50	2,7	0,75	1,9	1	1,6	2,5	1	<p>Subject mated contacts to 500 cycles at 200% rated current for 45 minutes 'ON' , 15 minutes 'OFF'.</p> <p>Test shall be performed in accordance with IEC 60512-5 , test 9e .</p>								
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0,50	2,7																			
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Mechanical																				
Crimp Tensile	<table border="1"> <thead> <tr> <th>Wire Size (mm²)</th> <th>Crimp Tensile min.(N)</th> <th>Crimp Height mm</th> </tr> </thead> <tbody> <tr> <td>0,5</td> <td>60</td> <td>1,32</td> </tr> <tr> <td>0,75</td> <td>80</td> <td>1,37</td> </tr> <tr> <td>1,0</td> <td>110</td> <td>1,62</td> </tr> <tr> <td>2,5</td> <td>230</td> <td>2,08</td> </tr> </tbody> </table>	Wire Size (mm ²)	Crimp Tensile min.(N)	Crimp Height mm	0,5	60	1,32	0,75	80	1,37	1,0	110	1,62	2,5	230	2,08	<p>Determine crimp tensile at a rate of 50mm/min .</p> <p>According to IEC 60512-8 , test 16d .</p>			
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0,5	60	1,32																		
0,75	80	1,37																		
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2,5	230	2,08																		

Insertion Forces	See Customer and Production drawings .	Test shall be performed in accordance to IEC 60512-7, test 13b .
Withdrawal Forces		Insertion withdrawal speed shall be 25 mm / min or manually .
Bending	<p>The transition between mating part of the terminal and wire barrel shall show no evidence of fracturing .</p> <p>Number of cycles shall be 5 average minimum without showing fracturing over not less than 12 samples .</p>	<p>Samples shall be placed in a fixture similar to that shown in Figure 3 . Samples shall be bend 45° from the longitudinal axis of the terminal and then bent 90° from the first bend . Then return to the initial position .</p>

Figure 1

(a) Maximum rated current that can be carried by this product is limited by maximum operating temperature of housings , which is 105°C , and temperature rise of contacts , which is 30°C . Variables which shall be considered for each application are : wire size , connector size , contact material and ambient temperature .

3.6 Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)					
	1	2	3	4	5	6
	Test Sequence (b)					
Examination of Product	1	1	1-5	1	1	1-3
Termination Resistance Specified Current	2		2-4			
Temperature Rise vs. Current		2				
Current Cycling			3			
Crimp Tensile				2		
Insertion Forces					2	
Withdrawal Forces					3	
Bending						2

Figure 2

(a) See paragraph 4.1.A

(b) Numbers indicate sequence in which tests are performed .

4. QUALITY ASSURANCE PROVISIONS

4.1 Qualification Testing

a) Sample Selection

Samples shall be prepared in accordance with applicable Instruction Sheets . They shall be selected at random from current production . Each group shall consist of 10 or more samples per wire size .

b) Test Sequence

Qualification inspection shall be verified by testing samples as specified in Figure 2 .

c) Acceptance

- Requirements put on test , samples , as indicated in the requirements portion of Figure 1 , exist as either the upper or lower statistical tolerance limit (95% confidence, 99% reliability) . All samples tested in accordance with this specification shall meet the stated tolerance limit .
- Failure attributed to equipment , test set-up , or operator deficiencies shall not disqualify the product . When product failure occurs , corrective action shall be taken and samples resubmitted for qualification .

4.2 Requalification Testing

Requalification shall be established by the cognizant divisional engineering function and may consist of all or any part of the overall qualification program provided that it is conducted within the required time period .

4.3 Quality Conformance Inspection

The applicable TE inspection plan will specify the sampling acceptable quality level to be used . Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification .

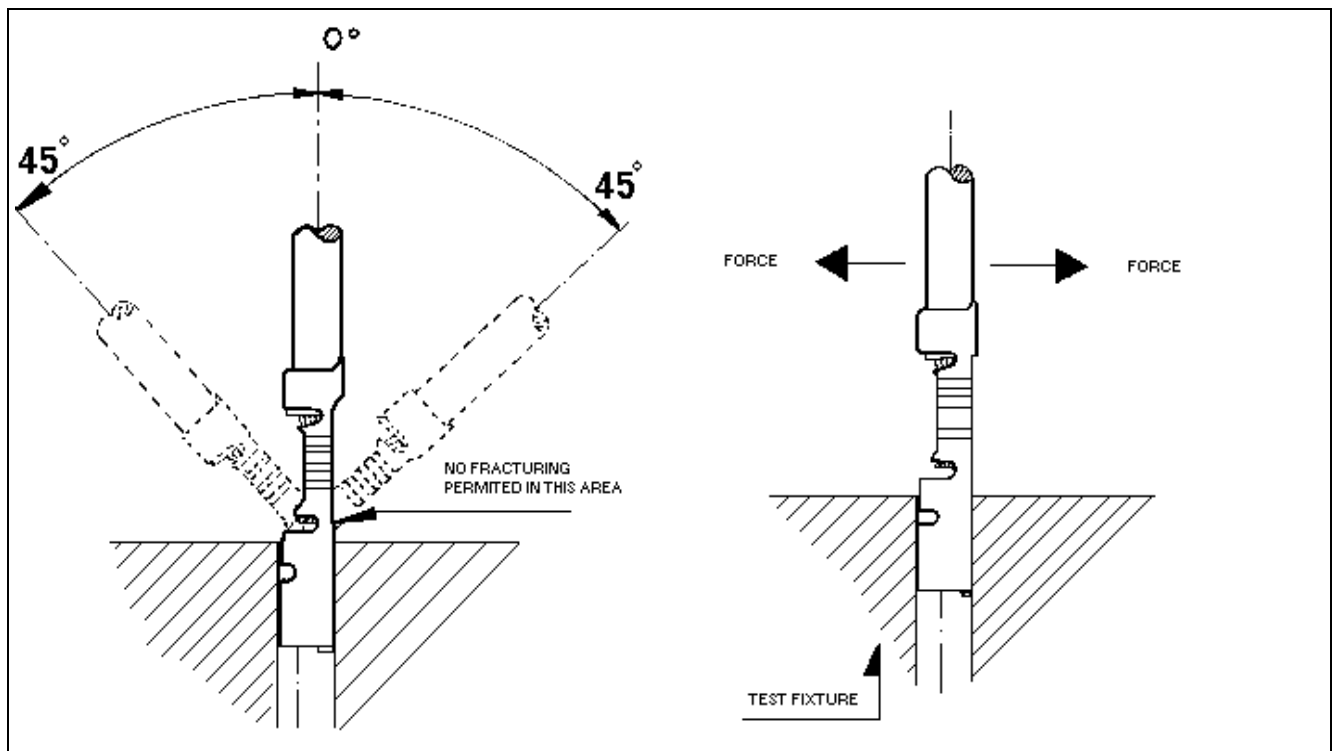


Figure 3

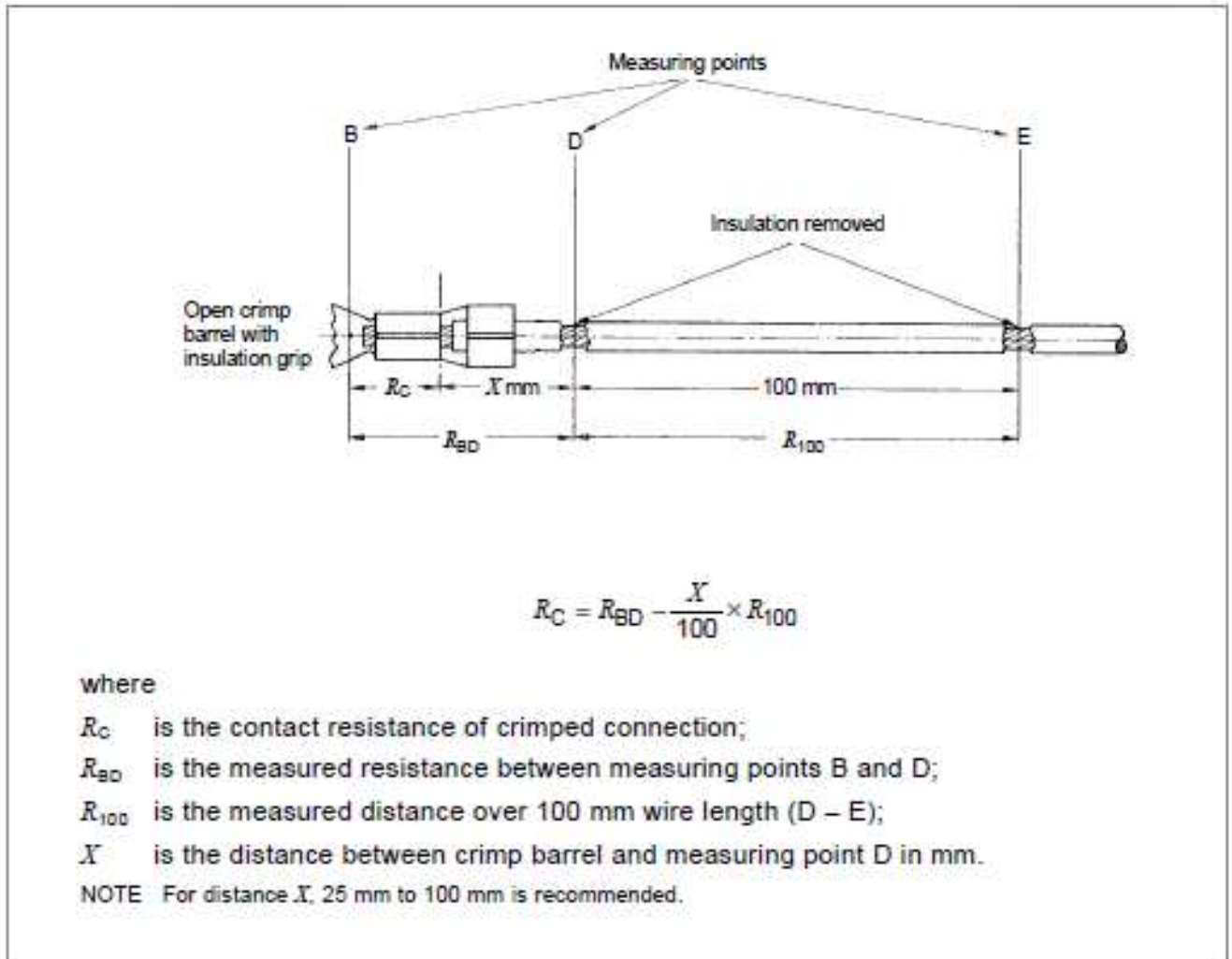


Figure 4

History				
Rev.	Date	Description	Prepared	Approved
O	09-Mar-95	Released	-----	-----
A	04-Oct-95	Revised by EC LB00-0478-95	-----	-----
B	03-Mar-2010	Revised itens : 1.1 / 2.2 / 3.5	C.Cassali	W.Stefani