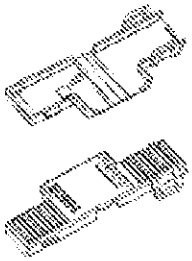
FLAG FASTON BOOT FOR FASTON* Connector,
6.3 mm series FLAG RECEPTACLE CONTACT.



## 1. SCOPE

This specification covers the performance requirements and test methods of the 1 way FLAG FASTON BOOT P/N 180984 and suitable FASTON* Connector, 6.3 mm series FLAG RECEPTACLE Contact P/N.s 280050, 282181, 180464, 282184 (see table on para. 2.7 for details)
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.
For test reports contact Engineering.

## 2. REQUIREMENTS

### 2.1. Design and construction

Connectors shall be of the design, construction and physical dimensions specified on the applicable product drawings, called Customer drawing (C-TE AMP P/N).

### 2.2. Materials

| | |
|---|---|
| Housing: | Poliammide 6.6 unfilled natural, Poliammide 6.6 unfilled natural UL-94V0 (for P/N.s 8-180984-0 & 8-180984-1). |
| Receptacle contact: | Tin plated Brass and Tin plated Phosphor Bronze. |
| Tab: | Plain Brass (TE AMP P/N 140736-1) |

### 2.3. Current Carrying Capacity

According to FIAT Norm 91107
6A for 0.5 mm2 wire section
20A for 2.5 mm2 wire section.

| C | REVISED & RETYPED, ET00-0088-04 | H.Y. | 29 April 2004 | C.T. | 29 April 2004 |
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| rev letter | rev. record | DR | Date | CHK | Date |

DR. H. Yaali — DATE 02 April 2004 — APVD C. Tartari — DATE 02 April 2004





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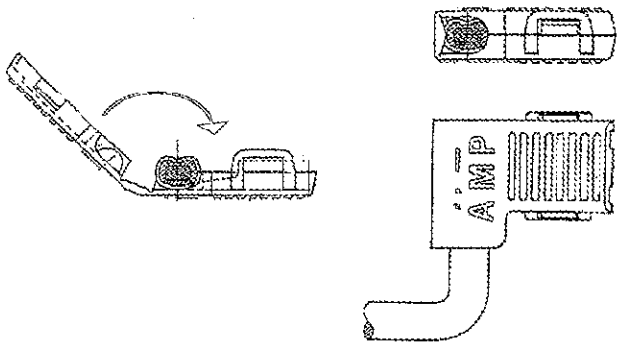
FTEC174 rev. 2 - July 99

### 2.4. Function

Insulation is guarantee by manual positioning of the crimped contact in it's appropriate boot location. Boot is manually closed until the complete fastening of the locking ears (see fig. 1)

Fig. 1




### 2.5. Temperature rating

Tempperature rating shall be within the following range:
-25°C - +105°C
-25°C - +125°C for P/N 8-180984-0 & 8-180984-1.

### 2.6. Flammability

The housing material should pass the flammability test according to UL norm 94-V2 and 94-V0 (only for P/N.s 8-1809984-0 and 8-180984-1).

### 2.7. TE AMP P/N.s table with description and wire range.

| TE AMP BASE P/N.s | DESCRIPTION | WIRE RANGE |
|---|---|---|
| C-280050 | 6.3mm srs. FLAG FASTON Rec. Ctc. | 0.5-1.5mm2 std. Ins. wire |
| C-282181 | 6.3mm srs. FLAG FASTON Rec. Ctc. | 0.5-1.5mm2, rid. ins. wire |
| C-180464 | 6.3mm srs. FLAG FASTON Rec. Ctc. | 1.0-2.5mm2 std. Ins. wire |
| C-282184 | 6.3mm srs. FLAG FASTON Rec. Ctc. | 1.0-2.5mm2, rid. ins. wire |

## 3. TEST REQUIREMENT AND PROCEDURE SUMMARY

### 3.1. Mechanical requirements

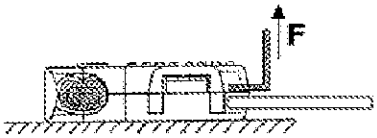
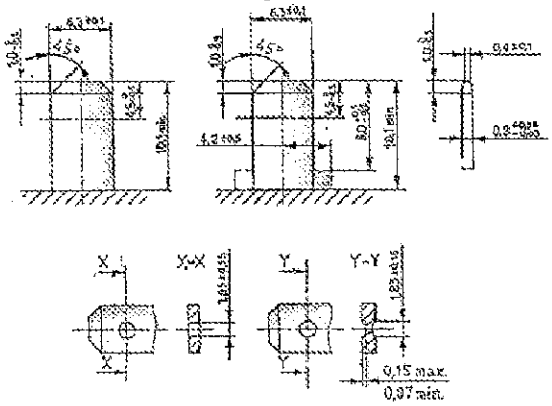
| TEST DESCRIPTION | PROCEDURE | REQUIREMENT | |
|---|---|---|---|
| 3.1.1. Mating force | Use housing loaded with contact as per para. 1.1 and plain tab according to ISO Norm 8092/1 (See also Fig. 2), at a 25-50 mm/min. speed. | Ist IN ≤ 80N | |
| 3.1.2. Unmating force | | Ist OUT ≤80N | XthOUT ≥20N |
| 3.1.3. Crimp tesile strenght | Subject terminal to direct pull at a rate of 25-50 mm/minute (the wire insulation must be cut to avoid the plastic material contribution to the wire crimp tensile) | WIRE SECTION (mm2)<br>0.5<br>0.8<br>1.0<br>1.5<br>2.5 | MINIMUM TENSILE FORCE (N)<br>70<br>90<br>115<br>155<br>235 |
| 3.1.4. Housing opening resistance |  | F≥30N | |

Fig. 2



### 3.2. Electrical requirements

| TEST DESCRIPTION | PROCEDURE | | REQUIREMENT |
|---|---|---|---|
| 3.2.1. Millvolt drop specified current | As per Fig. 3 page 5 | | |
| | Wire size (mm2) | Test current (A) | Max. value (mV/A) |
| | 0.5 | 5 | 3.6 |
| | 0.75-0.8 | 8 | 3.0 |
| | 1.0 | 10 | 2.6 |
| | 1.5 | 14 | 2.4 |
| | 2.5 | 20 | 2.2 |
| 3.2.2. Current overload | For 1 hour apply a current of 1.5 times the one specified at point 3.2.1. Use plain tab contact and receptacle located into the boot. | | No deformation, colour modification and other damage. Max. millivolt increasement permitted = 50% the one specified on para. 3.2.1 |
| 3.2.3.Thermal cycling | Subject mated connectors to 5 cycles. Each cycle consists of:<br>• 2 hrs at +105°C ±2°C<br>• 2 hrs at +40°C ±2°C at 90-95% RH.<br>• 2 hrs at –40°C ±2°C<br>(Use plain tab contact) | | Mechanical requirements: As specified on para. 3.1.<br><br>Millivolt drop: Max. increasement allowed = 100% the requirement specified in para 3.2.1. |
| 3.2.4.Insulation resistance | Put in touch externally the Rec. contact Loaded into housing and mated with plain test tab, to an metallic element. 500 Vcc, hold 1 minute | | ≥10 MΩ |
| 3.2.5.Dielectric withstanding voltage | Put in touch externally the Rec. contact Loaded into housing and mated with plain test tab, to an metallic element. | | ≥1500 V for 1 minute |
| 3.2.6.Accelerated ageing | To be performed only on insulated contact.<br>200 hours at 90°C ±2°C<br>&<br>200 hours at 125°C ±2°C<br>(for P/N.s 180984-80 and 180984-81) | | No deformation or cricks are permissible, but only pigment change. Max. millivolt increasement permitted = 50% the one specified on para. 3.2.1 Mechanical performance as specified in para 3.1.4. |

### 3.3. Environmental requirements

| | | |
|---|---|---|
| 3.3.1.Corrosion, salt spray | Subject mated connector to 72 hours at 5% NaCl concentration. | Max. millivolt increasement permitted = 50% the one specified on para. 3.2.1 |
| 3.3.2.Vibration | According to FIAT Norm 7. Z8510<br>Use connector mated with plain test tab<br>8 hours for each axis<br>frequency: 10-200-10 Hz<br>Amplitude: 2 mm (peak to peak)<br>Sweep rate: 1/8 per minute<br>Acceleration: 3g over 28Hz | Millivolt drop as per para. 3.2.1 requirements. And mechanical performance as per para. 3.1.1 and 3.1.2. |

## 4. QUALIFICATION

When all the tests have been successfully performed on the subject product line, the product is qualified according to the present specification.

Fig. 3

ARRANGEMENT FOR THE VOLTAGE DROP MEASUREMENT FOR RECEPTACLES