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EIA STANDARD

TP-35B

**Insert Retention Test Procedure
for Electrical Connectors**

EIA/ECA-364-35B

(Revision of EIA-364-35A)

DECEMBER 1998

ELECTRONIC INDUSTRIES ALLIANCE

**Electronic Components, Assemblies, Equipment & Supplies
Association**



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A Sector of the Electronic Industries Alliance

EIA-364-35B

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(From Standards Proposal No. 4151-A, formulated under the cognizance of the CE-2.0 National Connector Standards Committee.)

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This standard is based upon the major technical content of International Electrotechnical Commission standard 512-8, test 15b, insert retention in housing (axial), 1993-01. It conforms in all essential respects to this IEC standard.

This Standard does not purport to address all safety problems associated with its use or all applicable regulatory requirements. It is the responsibility of the user of this Standard to establish appropriate safety and health practices and to determine the applicability of regulatory limitations before its use.

(From Standards Proposal Number 4141 formulated under the cognizance of the CE-2.0 National Connector Standards Committee.)

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TEST PROCEDURE No. 35B
INSERT RETENTION TEST PROCEDURE
FOR
ELECTRICAL CONNECTORS

(From EIA Standards Proposal No. 4141, formulated under the cognizance EIA CE-2.0 Committee on National Connector Standards, and previously published in EIA Recommended Standard RS-364 as TP-35A.)

1 Introduction

1.1 Scope

This standard establishes a method to determine the ability of an insert to withstand axial forces in electrical connectors.

1.2 Object

The object of this test is to detail a standard method to determine the adequacy of the insert retaining system and the strength of the insert material in electrical connectors. This test establishes the ability of the connector to withstand the axial load of the combined contact engaging and separating forces.

2 Test resources

2.1 Equipment

2.1.1 Suitable holding fixtures

2.1.2 Force gages, of suitable range for the insert under test, so that readings shall lie in the middle 50 percent of the scale, where practicable, with a nominal full scale accuracy of ± 2 percent

3 Test specimen

3.1 Description

The test specimen shall consist of a plug or receptacle, wired or unwired as specified, with all accessories removed.

4. Test procedure

The test specimen shall be subjected to an axial load in both directions as specified in the referencing document. The load shall be applied at the rate of approximately 69 kPa per second (10 psi per second) and held for 5 s to 10 s. The load may be applied as a fluid pressure or as an equivalent load applied to the maximum practicable insert area.

CAUTION — Where air pressure is used there is a danger of contacts or inserts, or both, being ejected at a high velocity.

5 Details to be specified

The following details shall be specified in the referencing document:

5.1 Test specimen preparation

5.2 Mounting of the specimen, including suitable holding fixture

5.3 Force to be applied

5.4 If connector is wired or unwired

6 Test documentation

Documentation shall contain the details specified in clause 5, with any exceptions, and the following:

6.1 Title of test

6.2 Specimen description, including fixturing

6.3 Test equipment used, and date of last and next calibration

6.4 Test procedure

6.5 If connector is wired or unwired

6.6 Values and observations, including:

6.6.1 Force applied

6.6.2 Measured insert displacement at end of test, if applicable

6.7 Name of operator and date of test

