IEC 61300-3-52

Edition 1.0 2014-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-52: Examinations and measurements – Guide hole and alignment pin deformation constant, C_D for 8 degree angled PC rectangular ferrule, single mode fibres

Dispositifs d'interconnexion et composants passifs à fibres optiques – Procédures fondamentales d'essais et de mesures – Partie 3-52: Examens et mesures – Constante C_D de déformation de l'alésage de guidage et de la broche d'alignement, pour férule rectangulaire PC avec angle de 8 degrés, fibres unimodales

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 3-52: Examinations and measurements – Guide hole and alignment pin deformation constant, C_D for 8 degree angled PC rectangular ferrule, single mode fibres

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The text of this standard is based on the following documents:

FDIS	Report on voting
86B/3704/FDIS	86B/3727/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 3-52: Examinations and measurements – Guide hole and alignment pin deformation constant, C_D for 8 degree angled PC rectangular ferrule, single mode fibres

1 Scope

This part of IEC 61300 describes a procedure to measure guide hole and alignment pin deformation constant, C_D for 8 degree angled PC rectangular ferrule multi-fibre connectors.

2 General description

2.1 General

Alignment pin and ferrule deformation dependence on applied force at the pin edge can vary for different ferrule design attributes including material properties, internal geometry and surface roughness. The amount of deformation influences the amount of y-direction translation and therefore the nominal y-offset location of the fibre cores, Y_i.

Y_i is described by the next expression and shown in Figure 1:

$$Y_i = \alpha\ (ID\text{-}OD)/2 + C_D$$

where

- α is the coefficient that depends on the difference between guide hole pitches for mated plugs;
- ID is the inside diameter of the guide hole;
- OD is the outside diameter of the alignment pin;
- C_D is the alignment pin and guide hole deformation constant for an applied force of 0,7 N to each hole corresponding to the nominal mating force value of 9,8 N.

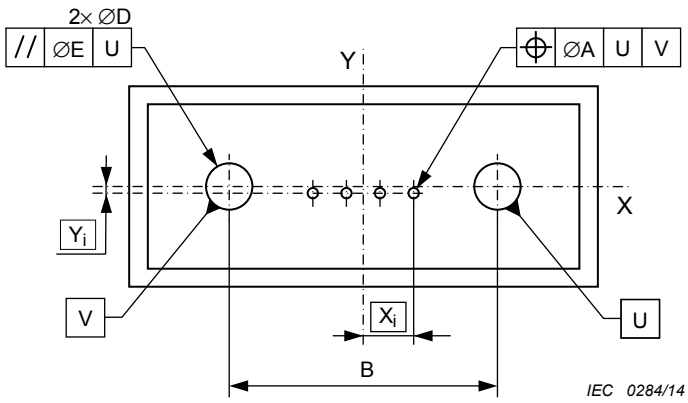

Figure 1 – Y_i and C_D definitions

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