

Institution of Engineering Designers (IED)

The Chartered Technological Product Designer (CTPD) Standard

The Competence and Commitment Standard for Chartered Technological Product Designers

IED Definition of Product Design - Product design is a structured process which produces a creative three dimensional object solution that encompasses technical and humanistic considerations with a clearly defined user and commercial viability to answer a specific problem.

CTPD

For admittance to the grade of Chartered Technological Product Designer a candidate should be able to demonstrate the following, supported by an evidence base, typically in the form of an Illustrated Report and a portfolio.

Thus a CTPD candidate should be able to demonstrate that they:

- A. Use technical knowledge and humanistic design understanding to optimise application of latest advances, including,
 - A1 Recognition by the product design profession of at least one product design undertaken by the candidate as being significant
 - A2 Critical evaluation of historical and latest trends in design thinking and their appropriate application,
 - A3 An ability to challenge and/or create a client brief.

- B. Apply a range of creative and scientific design methods to solution of product design problems, including;
 - B1 Analytical and creative thought processes,
 - B2 Understanding and/or reasonable usage of the functionality and capabilities of a CAD system or visualisation systems,
 - B3 Use of simulation or prototyping to explore and prove innovative solutions for complex design problems,
 - B4 Solution of design problems during the development of a substantially new product,
 - B5 Solution of design problems during the modification/improvement of an existing product,
 - B6 A holistic view of the design process encompassing understanding and application of marketing, aesthetics, ergonomics, manufacturing, materials, commercial and technical aspects,
 - B7 Development of products encompassing the whole of the design process from initial brief to manufacture of production prototype,

- B8 The ability to evaluate complex design solutions against conflicting constraints.
- C. Leadership, including demonstrating;
 - C1 A variety of substantially new product designs for which they have taken responsibility,
 - C2 Complete project management of a medium to high complexity project including management of budget and personnel,
 - C3 Leadership of teams and development of personnel to meet changing technical and managerial needs,
 - C4 Bring about continuous improvement through structured evaluation.
- D. Effective Interpersonal Skills, including;
 - D1 Appropriate personal and social skills,
 - D2 The presentation and discussion of product design briefs, specifications and concept design proposals,
 - D3 Appropriate communication with others at all levels.
- E. Commitment to professional standards, obligations to society and the environment, including;
 - E1 Compliance with relevant codes of conduct,
 - E2 Management and application of safe systems of work,
 - E3 Consideration of sustainable design practices,
 - E4 Continuing professional development necessary to maintain and enhance competence in own area of practice,
 - E5 Exercise responsibilities in an ethical manner.