“Standards for Product Design & Remanufacturing”

by

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The BSI ‘DfM’ committee:

- is named TDW4/5 and
- is concerned with Technical Product Specification

‘Design for Economic Production’

- Concerned with production of piece parts
- Nothing on assembly or disassembly
- Nothing on end-of-life issues
British Standard: BS8887-1:2006

‘Design for MADE’:

- M = manufacture
  - A = assembly
  - D = disassembly
- E = end-of-life processing

With respect to the disassembly and end-of-life processing sections, Section 1 ‘Scope’ sets the scene and includes the following statement:

‘In addressing end-of-life requirements, this British Standard extends beyond specification for the manufacture and assembly of products to incorporate recommendations on how best to incorporate into the documentation, guidance on the ultimate reuse, recovery, recycling and disposal of the components and materials used.’
BS8887-1:2006 Contents page:

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So, what has happened since 2006?

1. Sales of BS8887-1 have been high

2. Further Parts are in preparation:
   - Part 2 – ‘Terms and Definitions’
   - Part 3 – ‘Best Practice Routes’
   - Part 4 – ‘Remanufacturing’

3. A research programme on the needs and impact of BS8887 has been started.
BS 8887-2(2009)

Scope:
BS 8887-2 defines terms for design for manufacture, assembly, disassembly and end-of-life processing (MADE).

NOTE 1 This vocabulary was drafted with users of BS 8887, BS 8888 and BS 8889 in mind.
NOTE 2 Although terms are often defined differently in different industries, this standard has been drafted to attempt to provide a single definition for common terms in as many cases as possible, so that any particular word is used consistently in the MADE series (and related series).

BS 8887-2(2009) – examples:

remanufacture
return a used product to at least its original performance with a warranty that is equivalent or better than to that of the newly manufactured product

NOTE 1 From a customer viewpoint, the remanufactured product can be considered to be the same as the new product.
NOTE 2 Remanufacturing may not use repaired or reconditioned parts.
NOTE 3 With respect to remanufacture:
– manufacturing effort involves dismantling the product, the restoration and replacement of components and testing of the individual parts and whole product to ensure that it is within its original design specifications;
– performance after remanufacture is expected to be at least to the original performance specification; and
– any subsequent warranty is generally at least equal to that of new product.
recondition
return a used product to a satisfactory working condition by rebuilding or repairing major components that are close to failure, even where there are no reported or apparent faults in those components

NOTE With respect to reconditioning:
– manufacturing effort involves the replacement of worn or broken parts, generally less extensive than required to remanufacture, but more than necessary for repair;
– performance after reconditioning is expected to perform its intended role but the overall performance is likely to be inferior to that of the original model; and
– any subsequent warranty is generally less than new or a remanufactured product but the warranty is likely to cover the whole product (unlike repair); reconditioned

BS 8887-2(2009) – examples:

A route map for designers through a series of archetypal product types and examples.

BS 8887-3(????)
BS 8887-4(????)

‘Remanufacturing’

The Future?

Any thoughts and ideas – please communicate them to Brian, Ben or the BSI