

Defense Supply Center Richmond

Product Data Management Division

Advanced Engineering Data Guidance

As CAD technologies advance to driving manufacturing processes it becomes extremely beneficial to the government to define spare parts procurement by using three dimension parametric solid computer models. These models are built in CAD modeling programs, and have physical mass properties assigned to them. In traditional 2D CAD drawings a hole is represented as a circle on the drawing. In the three dimensional parametric solid model, the hole is a hole. The volume of the hole is subtracted from the parts over all geometry and is subtracted while figuring mass and moments of inertia. The holes diameter is a parameter. As the diameter is changed, the part's volume, mass, center of gravity, inertia and all other mass properties change accordingly.

Technical data packages (TDP) developed to take advantage of this new technology need to be created in accordance with ASME Y14 series, special Y14.100 (Engineering Drawing Practices), Y14.5 (Dimensioning and Tolerancing) and Y14.41-2003 (Digital Product Definition Data Practices); and MIL-DTL-31000.

The following list should be used when specifying deliverables to be used in a TDP:

1. Solid models in the native format with an individual model for each managed or repaired component.
 2. STEP 214 or 224 translations of each model.
 3. Traditional 2D drawings generated from the model in DWG, DXF or PDF.
- Optional
4. Solid models in a format usable by the requesting activity.



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