

Dimensioning Guidelines for Drawing Creation By Alex Krulikowski

Dimensioning Guidelines for Drawing Creation	Drawing Levels		
	Standard Compliant Drawing	Mixed Method Design	Functional Design with Analysis
Drawing indicates all the dimensioning and tolerancing standards that apply	X	X	X
The drawing fully defines each surface of the part (for size, location, orientation, or form)	X	X	X
No coordinate tolerances are used to locate holes, tabs, or slots	X	X	X
Position tolerances are used to locate all holes (also slots and tabs)	X	X	X
Profile tolerances are used to locate part surfaces	X	X	X
Orientation tolerances are used to orient all angular relationships	X	X	X
Datum(s) are specified	X	X	X
All geometric tolerances are specified in accordance with Y14.5	X	X	X
All general notes, title block tolerances, and notes show clear definition and do not conflict with other tolerances	X	X	X
General tolerances are specified for non-functional (or non-critical) part features with geometric tolerances that are mathematically robust	X	X	X
All part features assemble at nominal		X	X
The dimensioning is based on a combination of functional dimensioning, dimensioning for manufacturing and/or inspection (organization must define the mix)		X	
Tolerance stacks exist to ensure part assembly at worst case		P	X
Part tolerances are adjusted based on tolerance stacks for assembly			X
Dimensioning is based on the function of the part		P	X
Part mounting features are used as datum features; additional datum features are specified to document functional relationships		P	X
Part functions are identified and prioritized		P	X
A functional analysis has been completed for each part			X
Where a part feature affects several product functions, the dimensioning represents at least one of them			X
All important functional part feature relationships are directly dimensioned using GD&T			X
Design has been adjusted to ensure that tolerance values are maximized and based on product function			X
The stacks that ensure product function have been completed			X
A tolerance stack exists for each tolerance (for a functional relationship) on the drawing			X

P = Begin to work on this guideline as much as practical

X = Use this guideline on new drawings

Chart from "How Good are Your Company Drawings," by Alex Krulikowski
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