

NS-Rules of Drafting Dimensioning

1. Dimensioning of parts must convey enough information to define clearly the engineering intent, so that no scaling of drawings is required, nor any assumptions need to be made.
2. Each dimension must be expressed clearly so that it will be interpreted only one way.
3. No fractional dimensions are to be used only decimal dimension is the accepted practice.
4. No surface, line, or point may be located by more than one tolerance dimension in any one direction.
5. Dimensions shall be selected and arranged to avoid accumulation of tolerances.
6. Dimensions are shown on the view that most clearly represents the form of the feature being dimensioned.
7. Dimensions are shown outside the outline of the part unless clarity is impaired.
8. Dimensioning to hidden lines shall be avoided.
9. Dimensions must be selected to give the required information directly so that no calculations are needed to arrive at usable figures.
10. Where practicable, the finished part should be defined without specifying the manufacturing method. Thus, only the diameter of a hole is given without specifying how it is to be produced.
11. Dimensions out of scale shall be avoided.
12. Aligned dimensioning is to be used, that is, all dimensions and notes shall be aligned with the dimension line or side of part is being dimensioned.
13. Dimension text shall be above the dimension line and 1/8" (.125) in height.
14. Decimal places shall be set to the most common/frequently used decimal place indicated on drawing sheet.
16. Holes should always be located and called out in the circular view.
17. Cylindrical shapes should be dimensioned in the rectangular view.
18. Never cross a dimension line with any geometry.
19. You may however cross extension lines with other extension lines or with leaders for diameter/radius dimensions.

20. When placing leaders for diameter/radius dimensions or hole callouts, do not make the leader line horizontal or vertical. You should try to shift leaders at least 15° from vertical/horizontal.

21. AutoCAD Only>> All dimensions must be associative, do not override the text value of a dimension except for reference dimensions. If a prefix or suffix is needed, do so via the Dimension Style Manager, using the options within the Text tab, or use the text editor and add annotation in front or after the <>. Some examples are:

%%C<> puts a diameter symbol

<>%%D puts a degree symbol (°) after i.e. 45°

<>TYP for a typical dimension i.e. 1.250TYP

(<>) reference dimension with value in parenthesis i.e. (.25)

2x<> 2 places i.e. 2xR.125

22. All dimensions in your drawings must reflect the same number of decimal places as the drawing problem given, including angular dimensions. There will usually be a varied number of decimal places in a single drawing. AutoCAD Only>> Use Dimension Style Manager, Override, Primary Units, Precision, to change decimal places, or right click after gripping a dimension(s) and change precision.

23. Dimension spacing should be .5 inches or 12 mm apart. Use a grid to judge distances. Deductions will be made for crowded or inconsistent dimension spacing. If you need to expand the area of the grid, use the Limits command.

24. Tolerance and limit dimensions should be inserted using dimension variables, do not use the text command or suffixes and prefixes to add the extra values. AutoCAD Only>> Use Dimension Style Manager, Override, Tolerances, Method, to represent tolerances, or use Modify Properties to add the tolerance information after inserting the dimension.

25. Be aware that inch drawings typically have no leading zeros (before the decimal place), and metric drawings always do, when distances fall below 1 mm. AutoCAD Only>> Use Dimension Style Manager, Modify, Primary Units, Zero Suppression, if you need to suppress zeros.

***** Use the following link as an example while dimensioning your drawings:

http://limestone.k12.il.us/teachers/spille/Innovation%20PPTS/Dimensioning_Standards.ppt

NOTE: Where conflict of information exists between notes from websites or other sources, the guidelines in this handout are to be followed for grading purposes.