



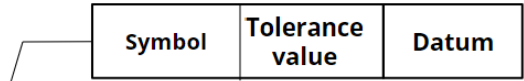
Excedify's GD&T cheat sheet

Geometric dimensioning and tolerancing (GD&T) is the language used by engineers worldwide to communicate technical geometrical requirements of parts and assemblies on technical drawings

visit [Excedify](#) for instrctions on using the cheat sheet

The feature conrol frame is the most important component of the language. It is comprised of two or three fields plus an arrow, called the leader.

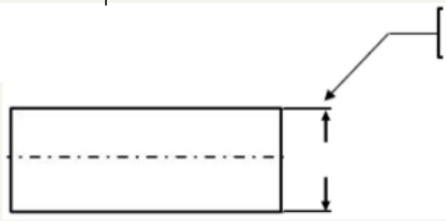
- First field contains the Symbol which represents the characteristic that we want to tolerate
- Second Field contains the tolerance value. Which is in most cases, the distance between two limits, between which the tolerated element has to lie
- Third field contains the datum, which is the reference to which the tolerance is specified
- The leader points at the tolerated feature



Feature Control Frame FCF including three fields and a leader



The leader pointing at feature: feature is tolerated



Leader pointing at a dimension line: Center-line is tolerated

| | symbol | name | on drawing | tolerance zone | datum |
|-------------------------|--------|----------------------|------------|----------------|-------|
| Form | | Straightness | | | no |
| | | Flatness | | | no |
| | | Circularity | | | no |
| | | Cylindricity | | | no |
| Orientation | | Parallelism | | | yes |
| | | Perpendicularity | | | yes |
| | | Angularity | | | yes |
| Orientation or location | | Profile of a line | | | y/n |
| | | Profile of a surface | | | y/n |
| Location | | Position | | | yes |
| | | Concentricity | | | yes |
| Run-out | | Radial runout | | | yes |
| | | Total radial runout | | | yes |
| | | Axial runout | | | yes |
| | | Total axial runout | | | yes |

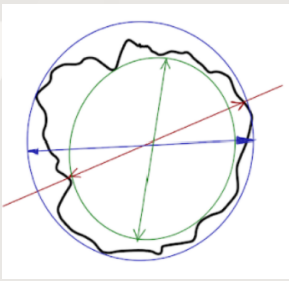
Important modifiers:

Adding a diameter sign to the tolerance value changes the tolerance zone from the distance between two elements to a circle or a cylinder

Adding the letters **LP** to the size value means that the measurement is done locally by measuring the distance between two opposing points (red line)

Adding the letters **GN** to the size value means that the measurement is done golabally by measuring the daimeter of the smallest inscribing element (blue line)

Adding the letters **GX** to the size value means that the measurement is done golabally by measuring the daimeter of the biggest inscribed element (green line)



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