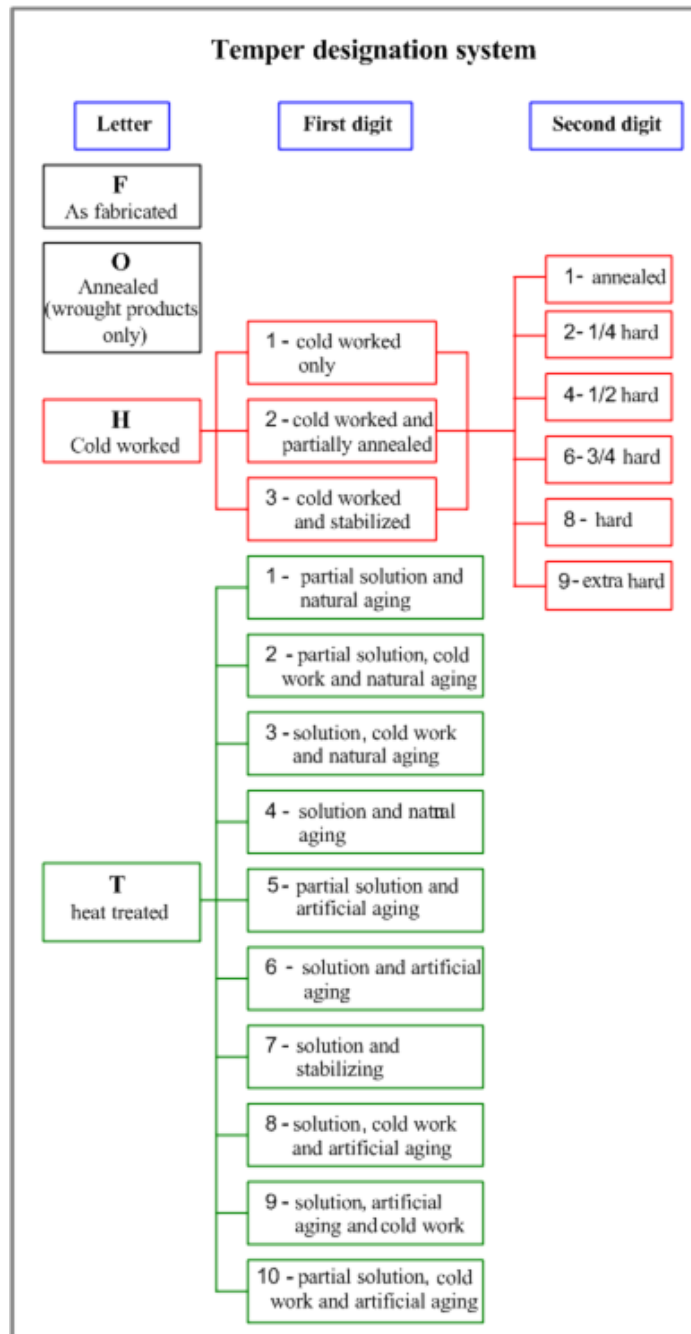


### Aluminum Alloy Tempers

The temper designation system uses letters, determining the basic tempers and digits, following the letters, indicating the conditions of the basic tempers.

The temper designation scheme is shown in the figure.





Treatments T1, T2, T5 and T10 start from cooling from elevated temperature shaping process (hot rolling, forging, extrusion etc.). This cooling is not very fast, therefore the treatment may be considered as partial solution treatment.

Treatment H may use a third digit.

H\_\_1 applies to products which are cold worked (strain hardened) less than amount required for a controlled H\_\_ temper.

H112 applies to products which may acquire some temper from working at an elevated temperature and for which there are mechanical properties limits.

Treatment T may use additional digits (second, third and fourth).

The second digit (not zero) may be added to T1...T10 for indication of a variation of heat treatment.

T\_51, T\_510, T\_511 mean stress relief by stretching done after solution treatment or after cooling from elevated temperature shaping process.

T\_52 means stress relief by compressing done after solution treatment or after cooling from elevated temperature shaping process.

T\_54 means stress relief of die forgings by re-striking cold in the finish die.

T\_42, T\_62 mean solution treatment from annealed (O) or as fabricated condition followed by natural (T\_42) or artificial (T\_62) aging.

**The most frequently temper used in extrusions are the T-1, T-4, T-5, T-6, and T-52.**