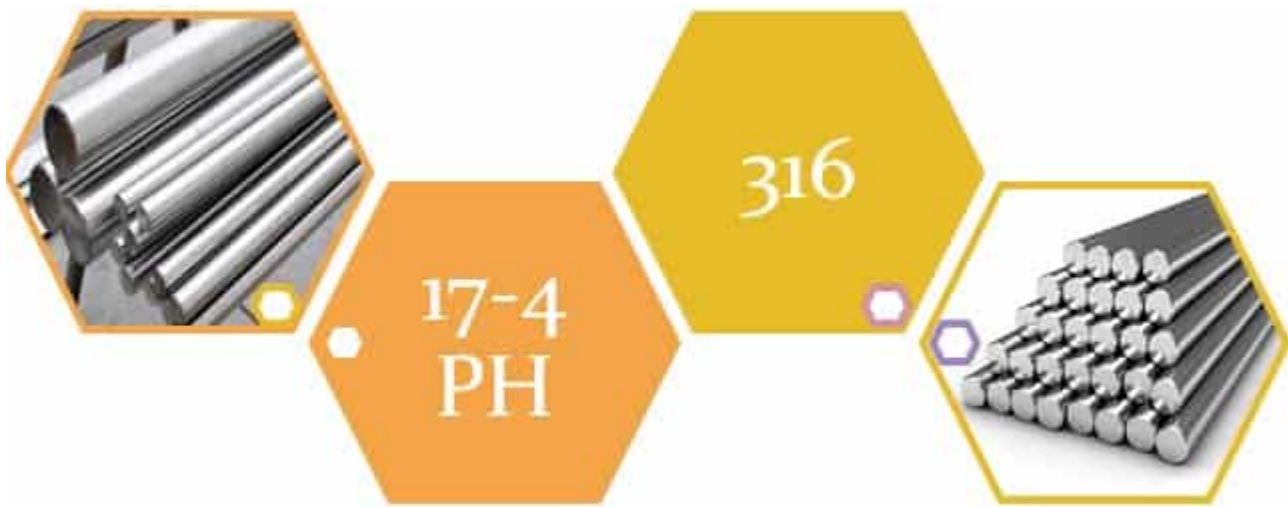




17-4 PH vs 316 Stainless Steel Grades

SS316 and 17-4 PH are one of the most important stainless steel grades. 316 and 17-4 PH are austenite and precipitation hardening material grades respectively which are defined in American standards. When you compare Stainless Steel 17-4 ph vs 316, it is obvious that 17-4 PH has the higher hardening content. Precipitation hardening grade is a combination of two stainless steel structures i.e. austenite and martensite. Both the grades i.e. 17-4 ph vs 316 offer high corrosion resistance.

The metallic samples of both 17-4 PH Vs 316 are being tested in chemical lab and mechanical labs on different testing equipment. The chemical test is carried out to identify the chemical composition of steel whereas the mechanical tests are performed to know the strength of 316 vs 17-4 samples.



It can be clearly examined that chemical composition for the two grades are bit different in terms of molybdenum, copper, columbium and Tantalum etc. The summary of results is shared below:

Chemical Composition

| Grades >> | SS316 | 17-4ph |
|-------------|-------|--------|
| Carbon | 0.05 | 0.06 |
| Manganese | 2 | 0.9 |
| Phosphorous | 0.045 | 0.03 |
| Sulphur | 0.03 | 0.02 |



17-4 PH vs 316 Stainless Steel Grades

| | | |
|--------------------------------|-----|------|
| Silicon | N/A | 0.9 |
| Copper, columbium and Tantalum | N/A | 4 |
| Molybdenum | 2.1 | N/A |
| Nickel | 8 | 4 |
| Chromium | 18 | 17.5 |

Also check the comparison between SS316 and SS304 stainless steel.

The mechanical properties of 17-4PH is higher in terms of hardness, tensile strength and yield strength as compare to the sample of SS316 stainless steel. Here are the summary of results for mechanical properties below:

Mechanical Properties & Strength

| Grades >> | SS316 | 17-4ph |
|------------------------|--------------|---------------|
| Tensile Strength Mpa | 545 | 1276 |
| Yield Strength Mpa | 275 | 1170 |
| Hardness (HB) | 220 | 350 |
| Elongation % | 50% | 8% |

Note: The values are test results conducted by labs of confidential steel manufacturing industry and it is just for informational and indication purpose. The information shared above should not be used for reference, business or legal purpose.