



## Standard Available in forms :

- ASTM A182/ ASME SA182 Stainless Steel Pipe Fittings
- ASTM A213 / ASME SA213 Seamless Stainless Steel Pipes
- ASTM A240/ ASME SA240 Stainless Steels Sheets / Plates
- ASTM A249/ ASME SA249 Stainless Steel Welded Tubes
- ASTM A269/ ASME SA269 Stainless Steel Tubes
- ASTM A270/ ASME SA270 Stainless Steel Sanitary Tubes
- ASTM A312/ ASME SA312 Stainless Steel Pipes
- ASTM A403/ ASME SA403 Stainless Steel Pipe Fittings
- ASTM A554/ ASME SA554 Stainless Steel Welded Tubes
- ASTM A731/ ASME SA731 Stainless Steel Pipes
- ASTM A789/ ASME SA789 Stainless Steel Tubes
- ASTM A790/ ASME SA790 Stainless Steel Pipes
- ASTM A791/ ASME SA791 Stainless Steel Tubes

## Products Available in forms :

- SS 430, Type 430, WNR 1.4016, UNS S43000, AISI 430 Plates
- SS 430, Type 430, WNR 1.4016, UNS S43000, AISI 430 Pipes
- SS 430, Type 430, WNR 1.4016, UNS S43000, AISI 430 Round Bar
- SS 430, Type 430, WNR 1.4016, UNS S43000, AISI 430 Tube
- SS 430, Type 430, WNR 1.4016, UNS S43000, AISI 430 Flanges
- SS 430, Type 430, WNR 1.4016, UNS S43000, AISI 430 Wire
- SS 430, Type 430, WNR 1.4016, UNS S43000, AISI 430 Fittings

## Corrosion Resistance

- All ferritic grades, such as stainless steel grade 430, have excellent stress corrosion cracking resistance.
- Grade 430 has good corrosion resistance to numerous substances, such as certain organic acids and nitric acid.
- The corrosion resistance is maximized in well-polished or buffed condition.
- Its pitting and crevice corrosion resistance is quite similar to that of grade 304.
- 430F is a high-sulfur free machining grade, and therefore the resistance to pitting and crevice corrosion is comparatively lesser than those grades that are non-free machining.

## Heat Resistance

- Stainless steel grade 430 is capable of resisting oxidation up to 870°C [1598°F] in intermittent usage, and up to 815°C [1499°F] in continuous usage.
- At room temperature, it has the tendency to become brittle, especially when it has been heated for a long time in the 400-600°C [752-1112°F] range.
- This issue can be overcome with annealing.

## Heat Treatment

- Solution annealing can be performed by heating stainless steel grade 430 to 815 - 845°C [1499-1553°F].
- Then it has to be slow furnace cooled to 600°C [1112°F] and followed by air-cooling in a quick manner - as slow cooling between 540 and 400°C [1004 and 752°F] tends to cause embrittlement.
- For sub-critical annealing, heating should be performed to 760-815°C [1400-1499°F], followed by air-cooling or water quenching.
- This stainless steel cannot be hardened by thermal treatment.

## Welding

- To perform any welding, stainless steel grade 430 has to be pre-heated at 150-200°C [302-392°F].
- In case of embrittlement in the welded metal, the particular area can be post-weld annealed at 790-815°C [1454-1499°F]; however grain refinement will not happen.
- It is recommended that grade 430, 308L, 309 or 310 filler rod should be used based on the application.

## Machining

- The machinability of stainless steel grade 430 is a lot easier than standard austenitic steels such as grade 304 - but there is a chance for galling.
- Lightly drawn bars are easier to machine than bars in the annealed condition.
- Grade 430F is easy to machine.

## Fabrication

- Stainless steel grade 430 has a low work hardening rate which enables easy bending and forming.
- The low ductility rate, however, makes it difficult to perform very rigorous operations.
- It is possible for grade 430 wire to handle rigorous cold heading.
- Sub-critical intermediate annealing may be required for extreme cold working.

## Applications

The following are the applications for stainless steel grade 430:

- Dish washer linings
- Refrigerator cabinet panels
- Element supports and fasteners
- Stove trim rings and chimney liners
- Automotive trim and lashing wires

The key application of grade 430F is in repeatedly used machined parts.



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