STAINLESS STEEL FORMING WIRE

Grades, features & applications

- Stainless Steel wire is ideal for many applications where the wire needs to be formed, bent or shaped into a manufactured product. These «forming» applications span a very large array of products in household, industrial as well as medical environments where the attractive combination of properties of stainless steels makes them uniquely suited, in view of their
  - resistance to corrosion
  - combination of ductility & strength
  - aesthetics
  - easiness of cleaning & upkeep
After forming, the stainless wire can end up in a variety of configurations such as: bent, woven, braided, meshed, stranded, shaped

- Main grades and corrosion resistance criteria for selection:
  - Ferritic 17%Cr grades types 430/434: limited corrosion resistance but quite sufficient for many domestic applications in appliances, flatware, etc...
  - «Low cost» Mn-Cu Austenitic grades type 204Cu: intermediate corrosion resistance. Adequate for household appliances, bakery equipment, etc...
  - Standard 18%Cr-8%Ni Austenitic grades type 304: good corrosion resistance making it a multi-purpose grade for appliances, food and beverages industries, restaurant equipment, etc…
• Cr-Ni-Mo Austenitic grades type 316: very good corrosion resistance due to the addition of Molybdenum. Widely used in corrosive industrial media and marine/salty environments

• Refractory Austenitic 25%Cr-20%Ni grades types 310/314: good resistance to oxidation at high temperatures.

• Mechanical characteristics for forming applications:

Ferritic stainless steels are generally used in annealed or lightly drawn conditions.
The broad array of applications of formed Austenitic stainless steels imply a wide range of tensile strength, from fully annealed to full hard wire, through the various intermediate levels:
1/8 hard (R~680 N/mm²), ¼ hard (750 N/mm²),
1/2 hard (950 N/mm²), ¾ hard (1250 N/mm²).
Most usual forming applications require tensile strengths in the range 1/8 hard to 1/2 hard.

• Surface quality – Electro-polish quality (EPQ):

Except for annealed wire, Sadevinox’s forming wire exhibits a « bright finish » surface. Thus, such wire is well suited for electro-polished finishing (EPQ = electro-polish quality).
The EPQ quality of our bright finish wires is regularly checked through appropriate tests…
• Main applications & usages of formed stainless wire:

- **Food processing, household appliances, restaurant equipment:** Such applications are the key areas of use of formed stainless steel wires. For example:
  o Kitchenware & appliances such as: flatware, whips, graters, picks, strainers, grids, racks...
  o Restaurant equipment: strainers, trays, fryers, grids, hooks, food racks...
  o Equipment of food processing industries: conveyors, bakery equipment, filters, oven grids, cable trays, hooks, storage racks...

- **Equipment of hospitals, schools:** trays, strainers, sterilization baskets, trolleys, various racks...

- **Agriculture/ Animal breeding:** cages, cattle & poultry feeders, filters, milk/cheese processing equipment, vineyard and orchard trellising, beehive wire, etc...

- **Industries & construction:** cable trays, conveyor belts, filters, hoppers, anchors, grids, safety fences, flexible hoses, cables, etc...

- **Hardware / Decoration:** staples, nails & screws, interior decoration, jewelry...

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