

Heating Elements

Why stainless?

- Electrical conductivity
- Oxidation resistance.

Fabrication process:

Hot rolled wire rod is drawn and annealed in successive steps into small diameter wire. This is then be wound to form heating elements for electrical appliances.

Grade:

Fe-Cr-Al stainless steels.

Manufacturer:

Kanthal AB, Sweden (kanthal.com).



Ferritic-chromium-aluminium stainless steels combine a controlled electrical resistivity with outstanding oxidation resistance. The oxidation resistance is a result of the high chromium and aluminum content in the stainless.

The heating elements are used in many domestic applications such as toasters and hair dryers.

They also have industrial uses in fan heaters and industrial furnaces.

For more demanding applications, and particularly at higher temperatures, nickel-chromium alloys or ceramics are used (for example, SiC, MoSi₂).

Images courtesy of Kanthal AB, Sweden.

