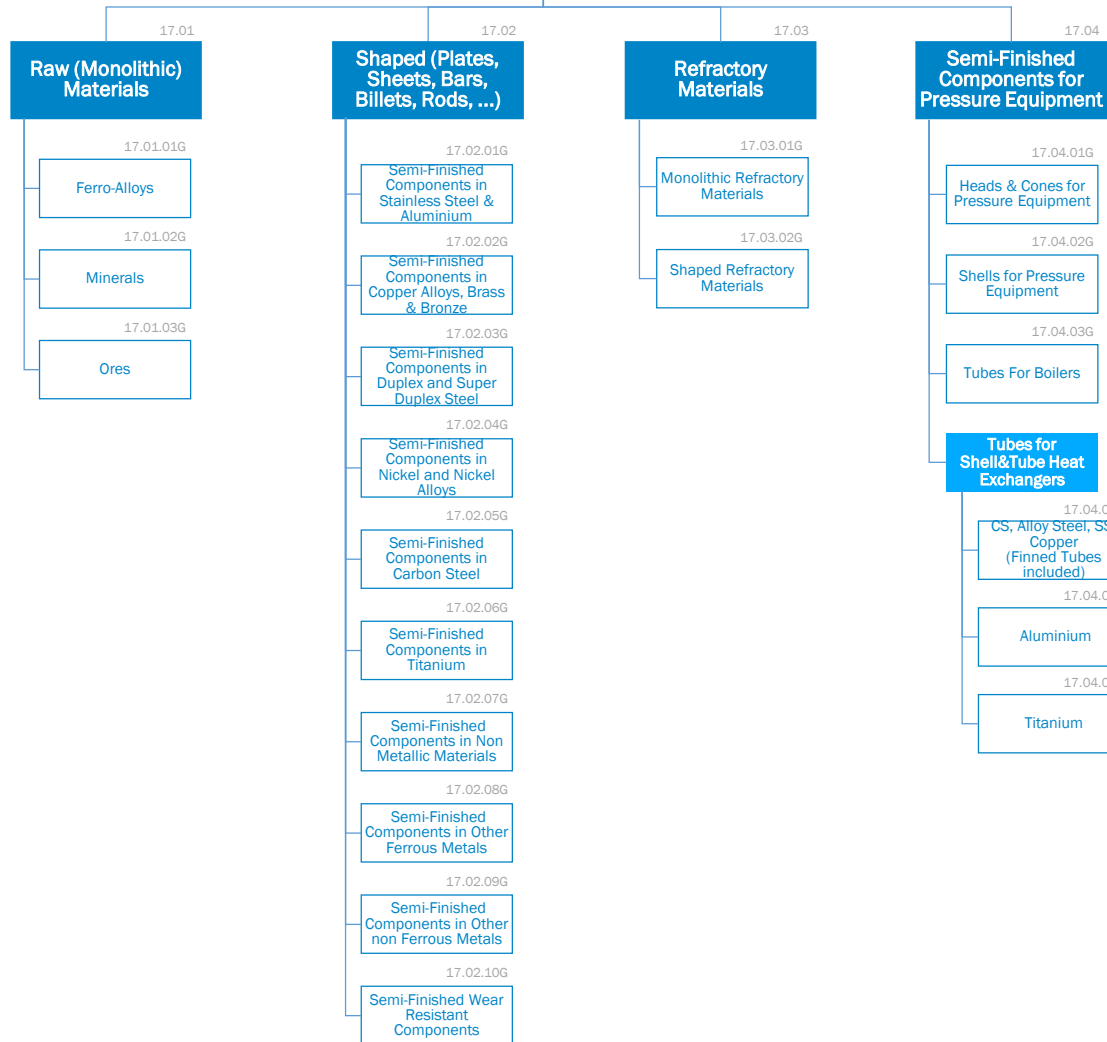


# Raw Materials



# Raw Materials

A raw material is a basic material that is used to produce goods, finished products, energy, or intermediate materials which are feedstock for future finished products. As feedstock, the term connotes these materials are bottleneck assets and are highly important with regard to producing other products.

Raw materials are converted into useful products in two steps: the material is formed into the requested shape, then the properties of the material is improved or altered in accord to the desired product.

## MAIN RATIONALES BEHIND THE STANDARD CATEGORIZATION

### Raw (Monolithic) Materials

- Alloys of iron that include elements such as: chromium, manganese, molybdenum, silicon, titanium, tungsten, vanadium and so on. Excluding carbon.
- A mineral is a naturally occurring substance – some examples of which are: aluminium, iron and copper.
- An Ore is a type of rock containing a mineral from which metals can be extracted - a typical example is Chrome ore.

### Shaped (Plates, Sheets, Bars, Billets, Rods, ...)

- 17.02.08 Metals or alloys which contain Iron such as cast iron, cobalt, ... (in most cases "Shipbuilding Plates" are ferrous metal pates).
- 17.02.09 Metals or alloys which don't contain Iron such as Lead, and Zirconium alloys.
- 17.02.10 Plates for abrasion and impact resistant applications (approx. BHN hardness > 350).

### Refractory Materials

- Monolithic refractories are mechanical mixtures of refractory materials that serve as aggregates, binders, mineralizers or other properties that are desired in the product. These are refractory materials which have no definite shape. Castables are included in this category.
- 17.03.02G refers to refractory materials with a definite shape, such as bricks.

### Semi-Finished Components for Pressure Equipment

- 17.04.03G Tubes designed for high temperatures and high pressures applications (also used for furnaces).
- 17.04.04G Tubes for Shell & Tube heat exchangers are used for cooling, heating or re-heating of fluids. Characterized by high corrosion resistance (also used for seawater coolers, condensers, evaporators, heaters and reheaters).