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|-----------------|--|-----------------|
| Type            | General Characteristics  | Alloy           |
| Aluminum        | Designed for machining   | 2011            |
|                 | Improved strength, high fatigue and cracking resistance  | 2024            |
|                 | Good formability, weldability, and corrosion resistance  | 6061            |
|                 | Higher strength  | 7075            |
| Brass           | Strength, corrosion and wear resistance, and excellent machinability   | C35300          |
|                 | Low cost, low strength, heavy, free machining  | C36000          |
| Copper          | High corrosion resistance, conductivity, and finish  | C11000          |
|                 | Excellent electrical conductivity  | TeCu C14500     |
|                 | Non-magnetic and has a very low permeability   | BeCu C17200     |
|                 | Excellent electrical conductivity and the strength   | BeCu C17300     |
|                 | Excellent electrical conductivity and the strength   | BeCu C17500     |
| Plastics        | Similar to nylon, better machinability   | Acetal          |
|                 | Similar to nylon, better machinability   | Delrin          |
|                 | Good machining, high friction resistance   | Nylon, extruded |
|                 | High strength plastic resin, extremely high resistance to heat, moisture, and chemicals                              | PEEK            |
|                 | High impact strength and durability, resistance to frictional wear, weathering, flame, heat, chemical, and radiation | PTFE and Teflon |
|                 | Low cost, lightweight plastic  | PVC             |
|                 | One of the highest dielectric strengths of any thermoplastic   | ULTEM           |
|                 | Extremely high resistance to wear and abrasion, resistant to most corrosive materials                                | UHMW            |
| Stainless Steel | Designed for machining, non-magnetic   | 303             |
|                 | Better weldability and formability, slightly more corrosion resistant  | 304             |
|                 | Better corrosion resistance  | 316             |
|                 | Corrosion resistance and high electrical resistivity   | 430 FR          |
|                 | High carbon, can harden to RC 60   | 440             |
|                 | Excellent corrosion resistance and heat treatable  | 17-4 PH         |
| Special Alloy   | High magnetic permeability and highest saturation flux density   | Carp 49         |
|                 | High heat resistance   | Greek Ascoloy   |
|                 | Resistance to pitting, stress, oxidation, chemicals, acids, and saltwater  | Hastelloy       |
|                 | Maximum electromagnetic permeability and minimum hysteresis loss   | Hymu 80         |
|                 | Stress cracking, chloride pitting, seawater, and gall resistances  | Nitronic 60     |
| Steel           | Moderate strength and low-stress applications.   | 1008            |
|                 | Plain low carbon steel, poor machinability but good formability and weldability.                                     | 1018            |
|                 | Strength, impact resistance and higher tensile strength.   | 1045            |
|                 | Higher carbon, higher strength, direct hardening   | 1137            |
|                 | Strength and machinability   | 11L37           |
|                 | Strength and hardness and a more uniform surface hardness  | 11L41           |
|                 | Designed for excellent machinability. Case hard only   | 12L14           |
|                 | Designed for good machinability. Case harden only  | 1215            |
|                 | Strength, toughness, and fatigue resistance  | 4130            |
|                 | Popular general-purpose alloy. Direct hardening  | 4140 or 4142    |
|                 | Designed for better machining w/lead additive; direct hardening  | 41L40           |
|                 | .55% Ni, .50% Cr, .20% Mo, heat treatable and case hardening   | 8620            |
|                 | Very high 1% carbon, .25% Ni, 1.4% Cr, .08% Mo   | 52100           |
| Titanium        | High strength, light weight  | Ti-6Al-4V       |
|                 | High strength, light weight, good bio-compatibility  | Ti-6Al-4Veli    |