Typical selection of steels and useful notes

STEEL	Notes
Carbon Steel	
BS 970 230M07 (EN1A)	A low carbon, free cutting, mild steel suitable for machining using automatic and CNC machines. Available as rolled or normalised in round, flat or hexagon form
BS 970 070M20 (EN3A)	A mild steel used for general purposes. Suitable for lightly stressed fasteners ,shafts etc. Can be easily machined and welded. Available hot rolled, normalised, cold drawn or turned. Supplied in Black round or square , bright round square, flat and hexagon.
BS 970 080M30 (EN5/EN6)	A medium strength steel. Used to make, shafts, racks, pinions, studs, bolts, nuts, rollers, etc. Supplied as square bar, or round bar or flat.
BS 970 080M40 (EN8)	A medium strength steel. Suitable for stressed pins, shafts studs, keys etc. Available as rolled or normalised. Supplied as square bar, or round bar or flat.
BS 970 070M55 (EN9)	A hard wearing medium carbon steel which can be hardened. Available as hot rolled, normalised, Cold drawn or turned. Sections available black round, black square, bright round and black flat.
BS 970 080M15 (EN32)	A case hardening mild steel suitable for general engineering applications. When case hardened results in a hard surface with a tough core. Used for making gears cams and rollers etc. Supplied as black round bar and sections
Alloy Steel	
BS 970 605M36 (EN16)	A manganese molydenum steel with good ductily and mechanical strength. Available in heat treated condition e.g (R,S,T).Supplied as black round or square bar and bright round or square, and hexagons.
BS 970 709M40 (EN19)	A 1% typical chromium molybdenum steel with higher molybdenum. Can be induction hardened. Used for gears, and high strength shafts etc. Suitable for higher strength applications when resistance to shock is required. Available annealed. Supplied as black round or square bar and bright round or square, and hexagons.
	A nickel chromium molybdenum steel with high strength and toughness. Used for gears

BS 970 817M40 (EN24)	axles and high strength studs. Supplied as rolled, annealed and hardened and tempered. Supplied as black round or square bar and bright round or square, and hexagons
BS 970 655M13 (EN36)	A high quality nickel chromium case hardening steel. Can be hardened to provide hard surface with a strong tough core. Used for high duty gears and shafts. Supplied in as-rolled condition in black square and round bar and bright round.
BS 970 722M24 (EN40B)	A 3% chromium molybdenum nitriding steel. Provide good tough core strength with a hard nitrided surface for wear resistance. Supplied in as-rolled, annealed and hardened and tempered condition in black square and round bar.
Stainless Steel	
BS970 416S21 (EN56)	Martensitic (Magnetic), can be hardened and tempered to give improved tensile strength. FM** grade. Typical applications include cutlery, surgical instruments, fasteners, valves, spindles and shafts.
BS 970 431S29 (EN57)	Martensitic (Magnetic). Supplied heat treated with a high tensile strength. Typical applications include cutlery, surgical instruments, fasteners, valves, spindles and shafts.
BS 970 430S15 typ (EN60)	Ferritic. Low Strength but good ductility. Used food processing and catering equipment and automotive trim,car exhaust systems etc.
BS 970 Grade 304S15 (EN58-)	Austenitic (Non-Magnetic)Cannot be heat treated but work hardens. Readily formed and welded,used mainly in domestic, dairy and decorative appliances general purpose grade for corrosion resistant applications. This grade is the most widely used of all stainless steels. Its chemical composition,provide the best all-round performance S.S. at relatively low cost. It has excellent low temperature properties. Lower Carbon grades (S15 and less) have improved weldability.
BS 970 Grade 316S16 (EN58J)	Austenitic (Non-Magnetic)Cannot be heat treated but work hardens. It offers high resistance to corrosion. Generally machined components and pipe fittings. This grade is almost as popular as the 304 grade the increased Mo content makes the steel more suitable for resisting pitting and crevice then 304 Grade. Lower Carbon grades (S15 and less) have improved weldability.

BS 970 Grade 321S12 (EN58B-C)	Austenitic (Non-Magnetic)Cannot be heat treated but work hardens. Titanium stabilized, which offers improved welding properties.
BS 970 Grade 310S31	Austenitic (Non-Magnetic). Pocesses good resistance to scaling at high temperatures. For continuous high temperature service in the range 850 - 1000oC.