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Physical & Mechanical Properties of High Chrome Material

Material Code	Hardness (HRC)	Impact Toughness (J/cm ²)	Application	Standards
M05	≥58	5~7	Alloy M05 is particularly suited to greater impact load and fair corrosion resistance, and it is used when a pH range is 5-12.	ASTM A532 CL III-A
M07	≥58	5~7	Alloy M07 has lower wear resistance but higher impact resistance than Alloy M05. It is used when pH range is 5-12.	ASTM A532 CL III-A
M49	35~45	5~7	Alloy 49 has certain erosion resistance and better corrosion and abrasion resistance, which is used in mild acid application with pH ≥4, particularly suitable for Flu Gas Desulphurisation (FGD) applications	
M33	30~40	5~7	Alloy M33 excels in erosion resistance and corrosion resistance, which can be used in oxidizing medium with PH ≥1, such as delivery of phosphogypsum and nitric acid, sulfuric acid and phosphoric acid, etc.	
M12	60~67	2~5	Alloy M12 has better wear resistance than Alloy M05, but it is not best suited for corrosion application. It can be used when pH range 6-14 where Alloy M05 doesn't provides fair wear life.	

M61	60~67	5~6	Alloy M61 has better toughness compared to Alloy M12, Alloy M61 can be further hardened by heat treatment, thereby improve its wear resistance. It is suitable for high abrasive slurry with fine particles with pH ranges of 6-14.	
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