

Copper Mould – Tube & Plate

Copper mould tube

Copper mould is placed in the heart position of continuous casting machine, its function is to solidify the liquid steel pouring through the submerged entry nozzle, and guarantees required billet, bloom, and slab with enough thick shell to be obtained. Copper moulds play a crucial role in increasing continuous efficiency as well as improving steel quality. Their function is to receive the molten steel and to allow rapid heat transfer from the steel to the cooling water to enable quick solidification. The moulds must exhibit excellent thermal conductivity, be resistant for thermal erosion, and be resistant to distortion from thermal stress. Copper and a few copper alloys meet the above conditions, both economically and technically.

The tough working condition of copper mould tube requires its material with excellent tensile strength, enough hardness, low elongation and good thermal conductivity. After years' experiment in our Lab & steel mills, our group manufactures copper mould tube with widely accepted material as: SF-CU, CU-Ag0.1 & Cu-Cr-Zr. Deoxidized phosphorus copper (TP2)

Metal Mould1- TP2



This kind of material is selected by most of steel plants. It shows excellent heat-proof and anti-fatigue property under

high temperature and it has good processing property.

Metal Mould2-CuAg



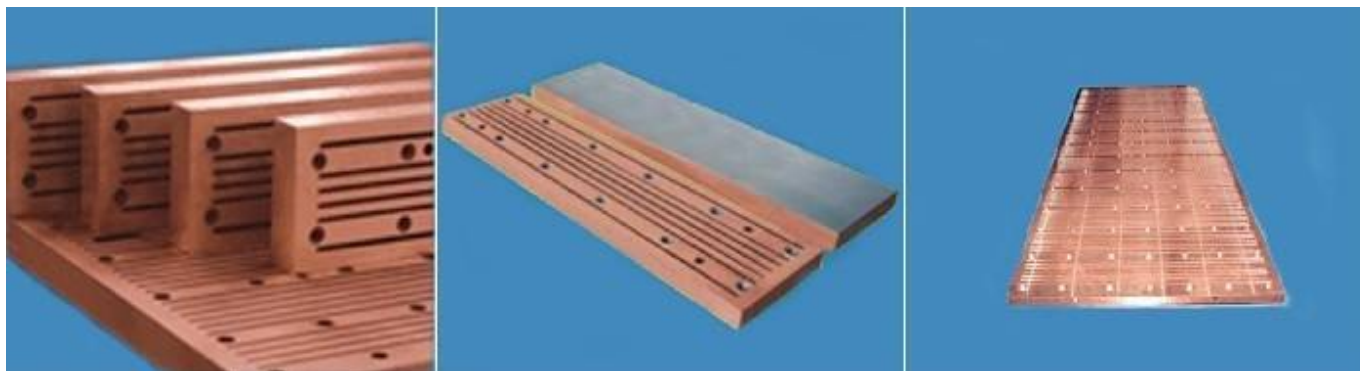
Adding 0.08%-0.12% silver during copper ingots melting will increase the re-crystallization temperature of copper by 100°, which will increase the heat stress and anti-abrasive property of copper mould tube interior surface, showing better heat resistant property than TP2.

Metal Mould3-CuCrZr



Cu-Cr-Zr is a kind of copper alloys which can be normalized by time. It has excellent mechanical property under both room temperature and high temperature. It has high heat conductivity, melting point, anti-fatigue and anti-heat stress properties. These outstanding features make it different from the previous copper alloys. It combines all good properties together. But compared with other copper alloys, Cu-Cr-Zr is difficult to be formed with higher products costs.

Copper mould plate



Materials and dimensions

Copper Plate Size	Length (mm)	Width (mm)	Thickness (mm)	Material	Coating
Thick Plate	350-3800	700-1000	30-480	CuCrZr, CuAg	Ni_Co, Ni_Fe
Thin Plate	1200-2000	1000-1200	–	CuCrZr, CuAg	Ni_Co, Ni_Fe

Other dimensions or materials requirements can be produced under customers requirements.