



## HS PH11

### HIGH-HEAT-RESISTANCE HOT WORKING & PLASTIC MOLD STEEL

#### Introduction

As modified high-toughness, high-isotropy, high-quality hot work & plastic mold steel, the steel has good cold and hot fatigue resistance and corrosion resistance, good cold and hot workability, good hardenability, and high thermal strength and oxidation resistance performance at medium temperature, as well as high toughness and wear resistance.

#### Chemical properties

Steel Grade	C	Si	Mn	P	S	Cr	Mo	V
HS PH11	0.35-0.40	1.00-1.20	0.30-0.50	≤0.010	≤0.020	5.00-5.20	1.20-1.50	0.40-0.60

#### Application

- Die-casting mold (mold core, insert, sprue spreader, nitrided ejector pins);
- High-strength plastic mold by injection molding;
- Extrusion mold (mold core, mold pad, choke block);
- Hot press forming dies for aluminum, copper and magnesium;
- Cold punch, hot shear, shrink ring and wear-resistant parts.

#### Features

- With electroslag remelting, high-temperature diffusion annealing and ultra-fine heat treatment, the uniformity of the structure is good, and the carbides are finely dispersed;
- Good heat and cold fatigue resistance and corrosion resistance, good cold and hot workability, high toughness and wear resistance;
- High purity control brings high polishability;
- High isotropy, aspect ratio  $\geq 0.85$ ;
- Annealing hardness  $\leq 200\text{HB}$ , quenching hardness 50-60HRC, tempering hardness 46-48HRC.