

# GRASPING THE CORE TECHNOLOGY OF SCREWS AND CYLINDERS





### INTRODUCTION

We have 15 years of experience in the resin technology industry and have provided cylinder screw solutions to over 35 Japanese companies. Based on the philosophy of Mr. Kazuo Inamori's management policy, influenced by the will of the greatman, we have established KAZUO brand, grasped the core technology of screws and cylinders, and became the top manufacturer of screws and cylinders in Southeast Asia and Asia  $_{\circ}$ 

#### **CORE VALUES**

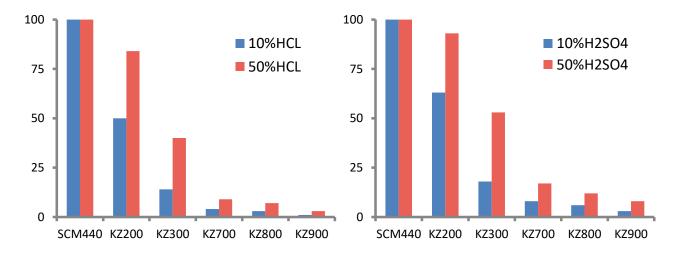
#### **CORE TECHNOLOGY**

In order to improve the properties of resin products, fire retardant, glass fiber, stone powder and additives are mixed, which causes wear and corrosion of screws and cylinders, shortening their life. Gradually grasp the core technology to solve the above problems. Especially the trend of cost reduction in product use.



#### **CORROSION RESISTANCE OF KZ-ALLOY**

Corrode damage test Specimen size : 2x2x10mm Temperature : 50°C Time : 24Hr



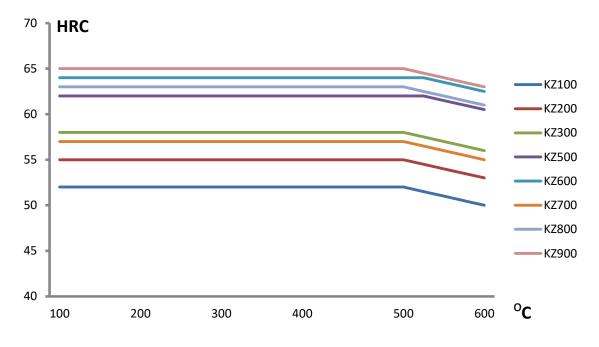
Material	Glass fiber (%)	Hardness (HRC)	Wear-resistant	Corrosion Resistance
KZ100	0%	48-52	★★☆☆☆	* * * * *
KZ200	0-15%	52-55	★ ★ ★ ☆ ☆	* * ☆ ☆ ☆
KZ300	15%-30%	55-58	★★★☆☆	★ ★ ★ ☆ ☆
KZ500	30%-45%	58-62	★★★☆☆	★★☆☆☆
KZ600	$\leq 65\%$	62-65	* * * * *	$\bigstar \mathbin{\vartriangle} \mathbin{\vartriangle} \mathbin{\vartriangle} \mathbin{\bigstar} \mathbin{\bigstar} \mathbin{\bigstar} \mathbin{\bigstar}$
KZ700	0-30%	55-58	★★★☆☆	★ ★ ★ ★ ☆
KZ800	30-65%	62-65	* * * * *	★★★★☆
KZ900	$\leq 65\%$	62-65	* * * * *	* * * * *



## **SCREW & TIPSET**

Alloy	Application	Plastic
KZ100	General	PC, ABS, PET, PP, PE, 0%GF
KZ200	Wear resistance	PC, ABS, PET, PP, PE, 15%GF
KZ300	Wear resistance	PC, ABS, PET, PP, PE, 30%GF
KZ500	High wear resistance	PC, ABS, PET, PP, PE, 45%GF PVC
KZ600	Ultra High wear resistance	PC, ABS, PET, PP, PE, 65%GF Phenol, Ceramic, Magnet,
KZ700	High wear and corrosion resistance	PA, PA66 30%GF
KZ800	High wear and corrosion resistance	PA, PA66 65%GF
KZ900	Ultra High wear and corrosion resistance	LCP, PEEK, PA6T, PA9T, PPS, 65%GF

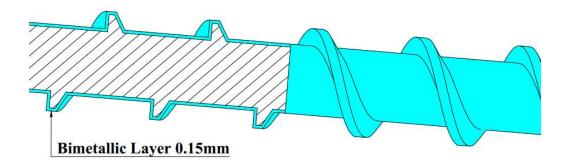
## Ability to maintain hardness with temperature



## TUNGSTEN COATING CARBIDE COATING SCREW

Coating a hard carbide layer on the surface of substrate materials, providing an outstanding resistance to corrosion and abrasion compared with substrate materials.

Name of coating	Hardness (HRC)	Wear-resistant	Corrosion Resistance	Application
KZH-600	67-71	* * * * *	★☆☆☆☆	Ultra High wear resistance
KZH-900	65-68	★★★★☆	* * * * *	Ultra High wear and corrosion resistance



#### BENEFIT

- > Outstanding resistance to corrosion and abrasion.
- Usage time is increased 2-3 times
- Reduce manufacturing costs



#### **PVD COATING**

## TiN

Gold color Using temperature is up to 600°C Features and Applications

- Resistance to adhesion
  - + The product is transparent like a lens
  - + The time to change the type of producing plastic is shortened
- High hardness 1800~2200 HV (65 HRC ~ 820 HV)
  - + Resistance to abrasion



### TiAlN

Purple black color Using temperature is up to 800°C

Features and Applications

- Resistance to chemical corrosion
- + For flame retardant plastics such as PEEK, LCP, PPS, PA9T...
  High hardness 2000~3000 HV (65 HRC ~ 820 HV)
  - + Abrasion resistance, used for plastics with glass fiber > 40%







# BARREL





Alloy	Cobalt Tungsten Alloy KZ-900	Nickel alloy KZ-800	Iron-based alloy KZ-500
Processing technic	Coating Thickness 2- 3mm Diameter Thickness 4-6mm	Coating Thickness 2- 3mm Diameter Thickness 4-6mm	Coating Thickness 2- 3mm Diameter Thickness 4-6mm
Alloy powder composition	WC -Co(50-60%)	Ni (60-70%), Cr,	Ni (10-20%)Fe
Hardness (HRC)	63-66	60-62	60-62
Wear-resistant	* * * * *	★ ★ ★ ☆ ☆	★★★☆☆
Corrosion Resistance	* * * * *	$\bigstar\bigstar \bigstar \bigstar \bigstar$	★ ★ ☆ ☆ ☆
Plastic	LCP; PEEK; PPS, PA9T 60%GF Phenol, Bakelite, magnet, ceramic	PA, PA66, Hi-PS, 30%GF PVC	ABS, PP, PC, PE 30%GF



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