

MIM T15 Injection Molding

Tool Steel Injection Molding

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Technical Data: MIM T15 Tool Steel

Product Description

T15 Tool Steel Metal Injected Parts possess a remarkable combination of properties that make them stand out in injection molding. First and foremost, T15 Tool Steel exhibits exceptional hardness, boasting a Rockwell hardness of up to 63 HRC. This extreme hardness ensures long-lasting durability and resistance to wear, making it well-suited for applications where components endure significant friction and abrasion. Furthermore, T15 Tool Steel exhibits remarkable thermal stability, melting at around 2,750°C. This property is especially advantageous in injection molding processes, as it creates intricate and high-precision parts without compromising structural integrity. In industries such as Consumer Electronics and Power Tools, where precision is paramount, T15 Tool Steel Injection Molding parts offer a distinct advantage, ensuring reliable performance and extended product lifespan.

Applications like:

- Remote Control Components
- Wearable Device Components
- Precision Sockets
- Electric Scooter Components
- Bicycle Components



Chemical Composition

Element	Carbon (C)	Chromium (Cr)	Vanadium (V)	Tungsten (W)	Cobalt (Co)	Manganese (Mn)	Silicon (Si)	Phosphorus (P)	Sulfur (S)
Chemical Content	2.40%	4.00%	5.00%	12.00%	8.00%	0.30%	0.30%	0.02%	0.01%

Physical and Mechanical

Alloys	Status	Tensile Strength	Yield Strength	Impact Strength	Hardness	Young's Modulus	Poisson's Ratio	Elongation	Density
		Mpa	Mpa	J	HRC	Gpa	Ratio	% in 25.4 mm	g/cm ³
Typical Values	Heat Treated	2100	1900	20	63	210	0.28	10	8.15

Typical Properties

T15 Tool Steel Metal Injected Remote Control Components



T15 Tool Steel Metal Injected Parts find a compelling application in remote control components due to their exceptional properties. Firstly, their high hardness, reaching up to 63 HRC, ensures the durability and longevity of critical components in remote controls. These parts are subjected to frequent handling, button presses, and exposure to external forces, making T15 Tool Steel ideal for resisting wear and maintaining precise performance over time.

Precision and reliability are paramount in remote control components, ensuring smooth and uninterrupted operation. T15 Tool Steel Metal Injected Parts guarantee these qualities, making them a favored choice for enhancing the performance and longevity of remote control devices in the Consumer Electronics industry.

Note

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Typical Properties

T15 Tool Steel Metal Injected Wearable Device Components

T15 Tool Steel Metal Injected Parts offer compelling advantages for use in wearable device components, aligning perfectly with the demanding requirements of this niche. Firstly, their remarkable hardness, with a Rockwell hardness of up to 63 HRC, ensures exceptional wear resistance. In wearable devices, components like clasps, fasteners, and connectors are constantly exposed to friction and abrasion due to frequent usage. T15 Tool Steel's hardness ensures these parts withstand wear and tear, prolonging the lifespan of wearable devices.

Secondly, the thermal stability of T15 Tool Steel, with a high melting point of around 2,750°C, is crucial for wearable devices that may be subjected to varying environmental conditions. This stability prevents deformation or structural changes due to temperature fluctuations, maintaining the integrity of the components.



T15 Tool Steel Metal Injected Precision Sockets



T15 Tool Steel Metal Injected Parts are the ideal choice for precision sockets due to their exceptional properties that perfectly match the demands of such components. Firstly, T15 Tool Steel boasts impressive hardness, often reaching up to 63 HRC. This exceptional hardness ensures the durability and longevity of precision sockets, which often handle delicate connections and require repeated insertions and removals. T15 Tool Steel's hardness minimizes wear and maintains precise tolerances even after prolonged use.

Secondly, T15 Tool Steel's thermal stability, with a melting point of around 2,750°C, is crucial for precision sockets exposed to varying environmental temperatures. This stability prevents structural changes or deformations, ensuring consistent and reliable performance. In precision electronics, where accuracy and reliability are paramount, T15 Tool Steel Metal Injected Parts provide an optimal solution for precision sockets, guaranteeing long-lasting performance and secure connections.

T15 Tool Steel Metal Injected Bicycle Components

T15 Tool Steel, renowned for its exceptional hardness and wear resistance, finds an excellent application in bicycle components within precision engineering. Its robust properties make it a prime choice for enhancing the durability and performance of critical bike parts.

First and foremost, T15 Tool Steel's outstanding hardness, with a Rockwell C hardness of up to 67, ensures that components like gears, crankshafts, and bearings can withstand the intense stresses encountered during cycling. Moreover, its high wear resistance, with wear rates as low as 0.12 mm³/km, guarantees an extended component lifespan, reducing maintenance frequency and costs. These qualities are paramount in the bicycle industry, where the demand for lightweight yet robust parts is ever-present.



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