

Jaw Crusher Jaw Plates High Manganese Steel And Alloy Tool Steel Jaw Dies

Item Number: KT-EB



Introduction

Engineered for exceptional impact resistance and extended service life, these high manganese steel and alloy tool steel jaw crusher jaw plates deliver unmatched durability, reducing downtime and maintaining consistent particle size reduction across demanding mineral processing and laboratory crushing applications.

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Application	Description	Key Benefit
Geological Ore Sampling & Assay Prep	Primary reduction of hard exploration drill cores, quartz veins, and polymetallic ores prior to fine pulverizing.	Eliminates structural failure on ultra-hard rocks (Mohs 7+) and prevents premature edge chipping.
Metallurgical Slag & Ferroalloy Reclaim	Crushing highly abrasive basic oxygen furnace slags, blast furnace residues, and dense ferrochrome nodules.	High manganese steel work-hardens instantly under continuous heavy impact, drastically extending plate service life.
Advanced Ceramics & Refractory Processing	Pre-crushing sintered alumina, silicon carbide chunks, zirconium oxide blocks, and dense refractory grog.	Alloy tool steel variants resist severe abrasive gouging and minimize metallic flake spalling into pure sample streams.
Mining Aggregates & Quarry Rock Quality Control	Standardized crushing of granite, basalt, river gravel, and limestone samples for aggregate testing and ASTM compliance.	Consistent tooth geometry ensures repeatable gradation curves and uniform flakiness index values across all batches.
Battery Mineral & Anode Material Comminution	Sizing raw hard-rock spodumene, synthetic graphite feedstocks, and nickel-cobalt concentrate precursors.	Durable alloy construction reduces iron micro-contamination through uniform face wear and exceptional gouging resistance.
Construction Demolition & Concrete Core Sizing	Crushing reclaimed concrete specimens, vitrified clay pavers, mortar fragments, and asphalt aggregate extractions.	High ductile core absorbs uncrushable aggregate inclusions and incidental rebar contact without catastrophic fracture.
Glass, Clinker & Industrial Waste Recycling	Processing cullet, vitrified slag cakes, electronic scrap ceramic substrates, and raw cement kiln clinker nodules.	Optimized corrugated profile prevents plate clogging and material bridging, maintaining high continuous volumetric throughput.
Precious Metal Refining & Foundry Operations	Breaking down crucible dross, foundry investment shell residues, slag skulls, and fused smelting fluxes.	Resists high ambient friction temperatures and abrasive sliding wear without softening or premature dimensional loss.

Parameter	KT-EB-MN (High Manganese Steel)	KT-EB-AS (Alloy Tool Steel)
Base Metallurgical Standard	High Manganese Cast Austenitic Steel (Mn13 / Mn18 Series)	Cold-Work Alloy Tool Steel (Cr12 / Cr12MoV Series)
Primary Elemental Chemistry	C: 1.05–1.35%, Mn: 12.0–18.0%, Cr: 1.5–2.5%, Si: 0.3–0.8%	C: 1.45–1.70%, Cr: 11.0–12.5%, Mo: 0.4–0.6%, V: 0.15–0.30%
Initial Delivery Hardness	200–245 HBW (Solution Annealed)	58–62 HRC (Hardened & Tempered)
Work-Hardened Hardness	500–600 HBW (Under continuous severe impact)	Continuous through-hardness (Non-work-hardening)
Charpy V-Notch Impact Toughness	≥ 100 J/cm² at 20°C	≥ 12–18 J/cm² at 20°C
Tensile Strength (Rm)	≥ 750–900 MPa	≥ 1400–1650 MPa
Yield Strength (Rp0.2)	≥ 400–500 MPa	≥ 1250–1400 MPa
Primary Wear Resistance Mode	High-impact gouging and extreme compressive crushing	Extreme low-to-moderate impact high sliding abrasion

Specification Parameter	Fixed Jaw Plate (KT-EB-FP)	Movable Jaw Plate (KT-EB-MP)
Base Component Model Identifier	KT-EB-MN-FP / KT-EB-AS-FP	KT-EB-MN-MP / KT-EB-AS-MP
Compatible Equipment Types	Laboratory & Pilot Jaw Crushers	Laboratory & Pilot Jaw Crushers
Mounting Position	Stationary front frame wall	Oscillating eccentric pitman beam
Surface Profile Configurations	Corrugated V-groove, Fine-pitch, or Smooth	Corrugated V-groove, Fine-pitch, or Smooth
Pitch / Tooth Depth Range	8 mm / 4 mm to 25 mm / 12 mm	8 mm / 4 mm to 25 mm / 12 mm
Plate Thickness Range	15 mm to 45 mm (Application dependent)	15 mm to 45 mm (Application dependent)
Machined Rear Flatness Tolerance	≤ 0.25 mm across mounting span	≤ 0.25 mm across mounting span
Reversibility Capability	180° Symmetrical Inversion Supported	180° Symmetrical Inversion Supported
Fastening Method	Top wedge clamp / Rear countersunk bolt-through	Bottom support ledge / Top wedge lock bar

Operational Parameter	Specification / Limit
Feed Hardness Compatibility	Up to Mohs 8.5 (Quartzite, Corundum, Granite, Sintered Oxides)
Maximum Recommended Feed Size	Up to 85% of jaw crusher feed opening width
Permissible Tooth Wear Limit	Wear through 65–75% of original tooth crest height
Minimum Residual Plate Thickness	Not less than 8 mm above backing plate structural base
Operating Temperature Range	-20°C to +250°C (Standard industrial and laboratory environments)