Crusher Wear Parts — Product Catalog

Material-matched wear parts for jaw, cone, impact and hammer crushers. Every grade is selected against crusher type, feed hardness, and crushing stage. Heat treatment documented per batch; hardness verified before shipment.

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1. Jaw Plates

Jaw plates are the primary wear components in jaw crushers, subject to high compressive and impact loading from the feed material. Material selection determines both wear life and fracture resistance — the two properties pull in opposite directions, and the correct balance depends on feed material hardness and crusher closed-side setting.

Material Grades

Grade	Mn %	Hardness (as-cast)	Best Application
Mn13Cr2	12–14	170–220 HBW	Primary crushing, hard abrasive feed
Mn18Cr2	17–19	170–220 HBW	High-impact primary, coarse feed
Mn22	20–22	170–210 HBW	Extreme impact, large primary crushers
42CrMo (Q+T)	—	340–400 HBW	Secondary crushing, lower impact energy

Standard Supply Information

Production basis	To OEM drawing or client specification
Profile options	Smooth, corrugated, ribbed — to drawing
Weight range	Typically 50–2,500 kg per plate
Heat treatment	Solution annealing per batch, temperature charted
Hardness cert.	Per batch, multiple measurement points recorded
NDT	MT or PT on request for critical sections
Lead time	Subject to size and batch quantity — confirm at enquiry

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2. Crusher Hammers and Hammer Arms

Impact and hammer crushers impose the highest dynamic loads of any crusher type. Hammers must absorb repeated high-energy impacts without fracture while resisting the abrasive wear of the crushed material. The two requirements — toughness and hardness — are addressed differently depending on the feed material and impact energy.

Material Options

Material	Hardness	Impact Resistance	Wear Resistance	Typical Use

Mn13–Mn18	200–550 HBW*	Excellent	Good (work-hardened)	General impact crushing
65Mn (forged)	58–62 HRC	Good	Excellent	High-hardness feed, hammer mills
High-Cr Iron	60–67 HRC	Moderate	Excellent	Abrasion-dominant, lower impact
Cr-Mo Steel Q+T	380–450 HBW	Good	Very good	Mixed abrasion/impact

* Work-hardened surface hardness in service

Forged 65Mn Hammers — Application Notes

Where impact energy is high enough to fracture standard cast manganese steel hammers before the abrasion wear life is exhausted, forged 65Mn steel provides a different performance profile: higher surface hardness after heat treatment (58–62 HRC) with a tough core that resists the fracture mode that ends the service life of cast alternatives. Weight matching within ±0.5% of nominal is standard for rotor balance requirements.

Production basis	To OEM drawing or standard profiles
Weight matching	±0.5% nominal for rotor balance — sets supplied matched
Heat treatment	Q+T to specified hardness range, charted per batch
Hardness cert.	Per piece or per batch as specified
NDT	MPI standard on forged hammers

3. Impact Plates and Apron Liners

Impact plates in horizontal shaft impactors (HSI) and vertical shaft impactors (VSI) receive the primary impact energy from the rotor-accelerated feed material. Material selection balances impact toughness at the attachment points and back face with surface hardness at the wear face.

Grade	Hardness	Application
Mn14Cr2	200 HBW → 500+ HBW*	Primary HSI, coarse abrasive feed
High-Cr Iron 26%	62–65 HRC	Fine feed, high-abrasion secondary HSI
Martensitic Steel	380–450 HBW	Mixed impact/abrasion, secondary stage

* Work-hardened surface hardness in service

4. Cone Crusher Liners — Mantles and Concaves

Cone crusher liners operate under sustained compressive load with lower impact energy than primary crushers. Manganese steel that does not work-harden adequately under these conditions performs below expectation; selecting the correct grade for the specific application is the primary determinant of liner service life.

Work-Hardening Diagnostic

If worn cone liner surfaces show hardness below 400 HBW, the manganese grade is not work-hardening under the operating load. Options: increase CSS to raise inter-particle compression, switch to a higher-manganese grade for improved work-hardening response, or consider alloy steel Q+T liners if impact energy is consistently low.

Grade	Mn%	Work-Hardening Potential	Recommended Stage
Mn13Cr2	12–14	Moderate	Secondary, medium feed hardness
Mn18Cr2	17–19	High	Secondary/tertiary, hard feed
Mn22	20–22	Very high	Tertiary, very hard abrasive feed
42CrMo Q+T	—	N/A (pre-hardened)	Tertiary, low impact CSS
High-Cr Iron	—	N/A	Tertiary, purely abrasive fine feed

5. Crusher Structural Spare Parts

Structural crusher spare parts — mainshafts, eccentric sleeves, toggle plates, frame castings — are produced to OEM drawings. These are not consumable wear parts; they are structural and transmission components expected to last for years of service.

Component	Material / Process	Key Property
Mainshaft	42CrMo4 open-die forged, Q+T	Fatigue resistance — 25–35% > bar stock
Eccentric sleeve	ZCuPb20Sn5 centrifugal cast	Hydrodynamic film lubrication
Toggle plate	Alloy steel cast or fabricated	Controlled fracture under overload
Top / bottom shell	Alloy steel sand cast, Q+T	UT verified, CMM bore positions

6. Quality Assurance and Supply Basis

Quality system	ISO 9001 certified — scope covers casting, forging, heat treatment, machining, inspection
Material certs.	Mill test reports / EN 10204 3.1 or 3.2 as specified
Heat treatment	Time-temperature charts per batch, retained on file
Hardness records	Multiple points per batch, actual values (not pass/fail only)
NDT	UT, MPI, PT as specified or per applicable standard
Dimensional	CMM reports for precision-machined components
NDA	Executed before review of proprietary drawings — standard practice
First article	FAI against all drawing requirements before volume production

Response time	Technical enquiries: 1–2 working days
Contact	inquiry@minecomponents.com | www.minecomponents.com