

CCO Plate vs Hardox Wear Plate: Heavy Milling Advantages from HISAN, a Professional Wear Plate Factory in China



Tianjin, China Jul 26, 2026 ([Issuewire.com](http://www.issuewire.com)) - In mining, cement, power generation, steel, and bulk material handling operations, the parts that fail first are seldom the strongest steel in the machine. They are the liners, chutes, hoppers, and grinding surfaces that absorb constant sliding wear, impact, and the cost of unplanned downtime. That reality is what makes the question of [CCO Plate vs Hardox Wear Plate](#) more than a contest of hardness numbers. It is a decision about base structure, overlay mechanism, fabrication fit, and the long-term rhythm of maintenance.

From an engineering perspective, on that decision, [HISAN](#) (TIANJIN) CO.,LTD works from the perspective of a bimetallic wear plate maker. The company builds a wear-resistant overlay onto a mild steel base plate, so the wear-resistant layer takes the abrasive punishment while the base keeps room for welding, bolting, cutting, forming, and assembly. In heavy milling equipment and liner systems, Hardox wear plate represents the high-hardness, high-toughness through-plate route, while the HISAN CCO plate concentrates chromium carbide and complex carbide protection exactly where the wear happens.

CCO Plate vs Hardox: Material Structure

The first comparison criterion is material construction. A HISAN CCO plate pairs a high volume fraction chromium carbide or complex carbide overlay with a mild steel backing. The overlay faces the abrasive media; the backing carries mounting, welding, and structural connection duties. Hardox wear plate, by its maker's own positioning, is valued for a combination of hardness and toughness across the full plate, which suits structures that need overall strength, flexibility, and reduced weight. HISAN's route differs in intent. The overlay is designed as a directional, sacrificial wear surface, which is why it fits mill liners, chutes, hoppers, and grinding surfaces where loss is concentrated rather than spread evenly. HISAN's CCO category confirms a bimetallic structure, uniform overlay thickness, macro-hardness of 57 to 63 HRC, ASTM G65 Procedure A abrasion testing, cut-to-size wear parts, and in-house fabrication.

Abrasion Performance in Heavy Milling

Heavy milling punishes materials through continuous abrasive scouring and recirculating friction. In cement, power plant, mining, and bulk handling equipment, a liner is not a static guard. It is a working part of the flow, grinding, classification, and conveying process, worn at high frequency. HISAN concentrates its advantage here in complex carbide overlays. The HS300 plate suits high-abrasion conditions with medium-to-high impact, while the HS600 plate is developed for extremely severe abrasion across mining, cement, steel, and bulk material handling. HS300 carries a blend of chromium, niobium, molybdenum, vanadium, and titanium carbides; HS600 uses a complex carbide overlay rated at 60 to 65 HRC. Cement mill internals, roller presses, mill rollers, grinding surfaces, and mill casings are the application points where an abrasion-first priority matters most.

Why HISAN CCO Plate Fits Mill Liners, Chutes, and Grinding Surfaces

A plate grade delivers practical value when it reaches the equipment as an installable part. HISAN's factory value lies in turning wear plate into wear parts through cutting, forming, welding, stud attachment, assembling, and grinding. That lets a heavy milling system be fitted around a specific liner position, material flow angle, and maintenance window rather than a fixed sheet size. The HS200 plate handles severe abrasion with low-to-moderate impact, which fits coal, power plant, chute, and bunker positions where wear concentrates, while HS300 and HS600 push the complex carbide composition toward higher abrasive intensity for cement, mining, steel, and bulk material handling. HS200 carries bulk hardness of 58 to 65 HRC and an ASTM G65 Procedure A result of 0.18 grams or less, with common thickness pairings that cover light liners through heavy grinding zones. Keeping material grade, application, and fabrication inside one product chain reduces the buyer's risk of sourcing a plate that cannot be mounted.

Testing and Factory Capability Turn the Comparison into Verifiable Proof

For procurement teams, the CCO Plate vs Hardox Wear Plate choice ultimately depends on what can be verified. Hardness, composition, overlay thickness, metallographic structure, wear-test results, cutting and forming quality, and batch consistency decide whether a liner earns a place in a heavy milling maintenance plan. HISAN's Company Ability supports that argument with measurable process capability, including a Vickers hardness tester, portable hardness and thickness testers, a SPECTRO spectrometer, an ASTM G65 wear test machine, a metallographic microscope, and a desktop Rockwell hardness tester. Customer-confirmed background adds scale to the picture: a 16,000 square-metre facility, more than 180 professionals, over 20 R&D specialists, and an annual capacity of 26,000 tons. Together, the equipment and the capacity let quality claims rest on inspection and documentation rather than description alone.

Hardox Remains Strong, but CCO Offers a Different Heavy-Abrasion Route

These distinctions do not reduce the established value of Hardox. Its through-hardened plate brings hardness, toughness, flexibility, and the potential for lighter equipment, and it is applied across dump trucks, buckets, mining, cement, construction, agriculture, and high-temperature environments, with a product range that spans Hardox 400 through 600. HISAN's point is not to replace that plate but to separate the wear question by mechanism. When the dominant problem is continuous abrasive scouring, localized liner loss, material-flow erosion, and replaceable wear parts, a chromium carbide or complex carbide overlay lets the wear investment sit at the surface. Hardox suits high-toughness, full-structure builds; the HISAN CCO plate suits heavy-abrasion surfaces that benefit from overlay protection, thickness customization, and finished liner fabrication. The comparison stays bounded by each brand's published material, weighing wear routes and operating fit rather than claiming one plate wins in every case.

HISAN Positions Heavy Milling Wear Protection as a Factory-Built Solution

From an engineering perspective, that is where HISAN presents itself as a professional wear plate factory in China rather than a single-product supplier. Its range covers CCO plates, welding wire, overlay wear pipe, wear parts, and overlay welding and repair services, which lets a single plate selection grow into a combined answer for wear points, fabrication, and later maintenance. In heavy milling, buyers weigh more than the price of one plate. They weigh liner life, downtime frequency, installation fit, batch traceability, test documentation, and dependable resupply. HISAN's material families and testing equipment give those judgments something concrete to stand on, turning a materials debate into a factory conversation.

Viewed as a whole, HISAN's heavy milling value is best summarized as a combination of material structure, complex carbide grade, fabrication capability, testing equipment, and factory capacity, not a single hardness figure. It reflects a company dedicated to providing quality and cost-effective wear solutions that meet application-specific customer requirements, delivered as a comprehensive integrated wear-protection solution.

Operations that need to evaluate CCO Plate vs Hardox Wear Plate, or to specify mill liners, chute liners, hopper liners, grinding surfaces, or a custom bimetallic wear plate, can share their working conditions, thickness, dimensions, and testing requirements with HISAN at <https://www.hisancco.com/>



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