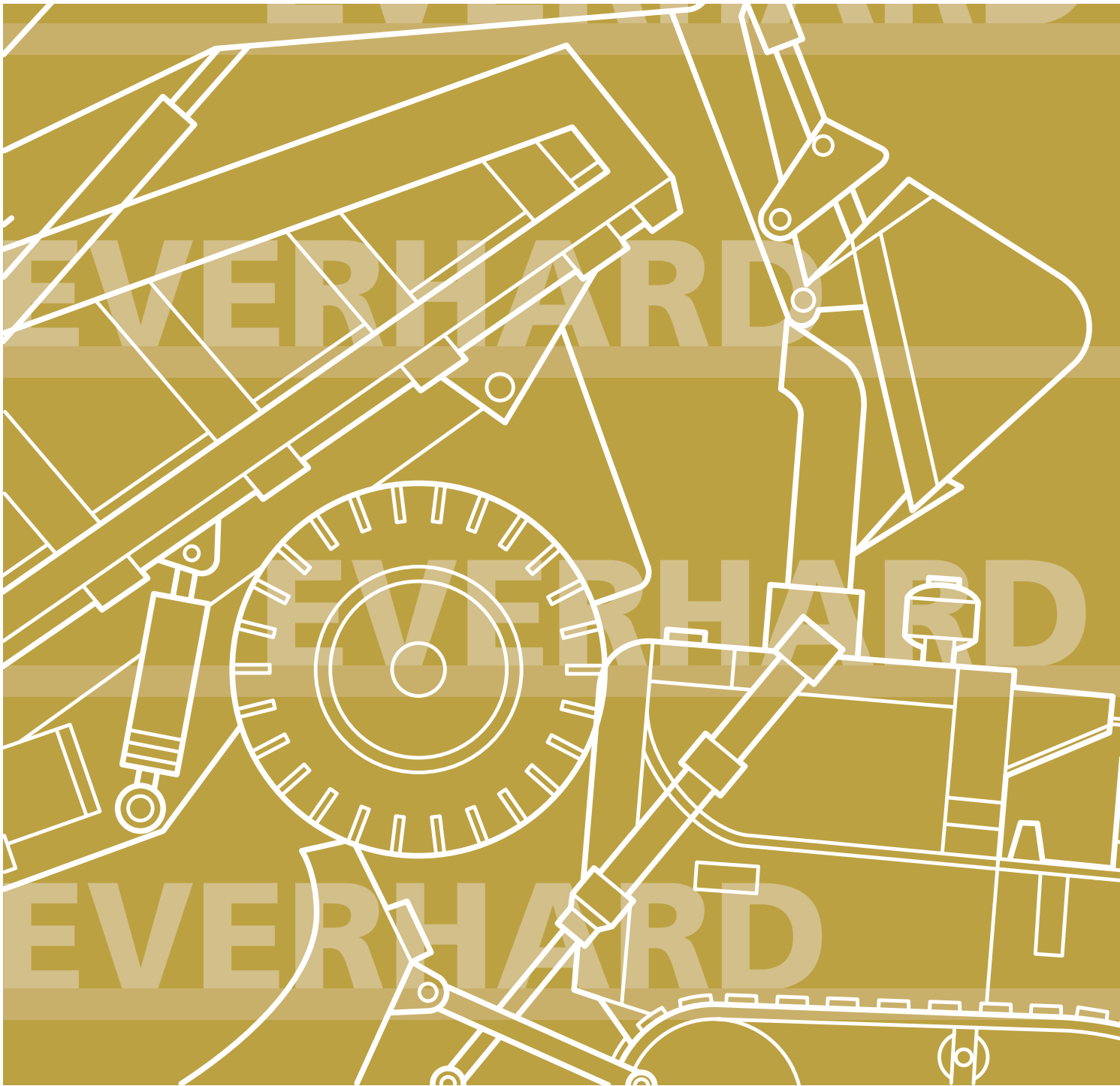




JFE

JFE EVERHARD EHSP

JFE's Super Abrasion-Resistant
Steel Plate



JFE Steel Corporation

What's new



Excellent abrasion resistance without sacrificing formability and weldability.

Until now, wear resistance was created with increasing hardness which consequently reduces formability and weldability.

After extensive research for years, JFE succeeded in developing an excellent abrasion resistant steel, JFE EHSP.

By utilising extremely hard precipitates – **Titanium Carbide** – excellent wear resistance in JFE EHSP has been achieved without increasing hardness.

Highly improved abrasion resistance

Almost same weldability and formability as conventional JFE EH500

Specifications

Chemical composition

Grade	Available thickness mm	Heat treatment	Chemical composition %									
			C	Si	Mn	P	S	Cr	Mo	V	Ti	B
JFE-EHSP	6~65	Controlled Heat Treatment	0.35 max.	0.55 max.	1.60 max.	0.030 max.	0.030 max.	0.50 ~1.50	Other alloying elements are added.			

Mechanical properties

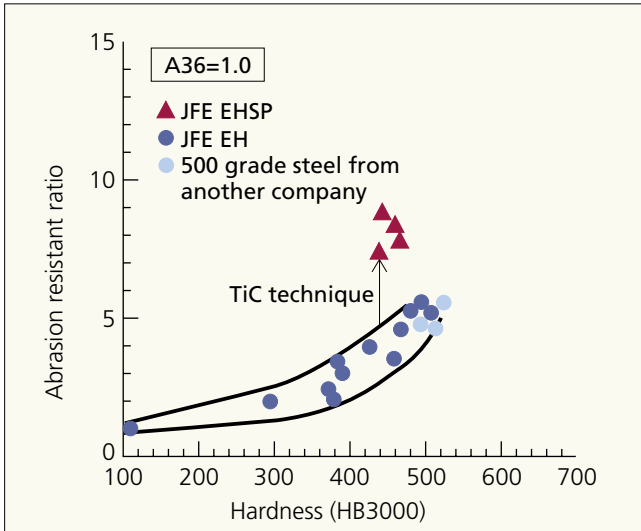
Grade	Hardness test*	
	Thickness mm	Brinell hardness (3000) Average of 5 values
JFE-EHSP	6~65	401min.

Appearance, shape, dimensions, mass and their tolerances comply with JIS G3193.

* Test for plate surface.

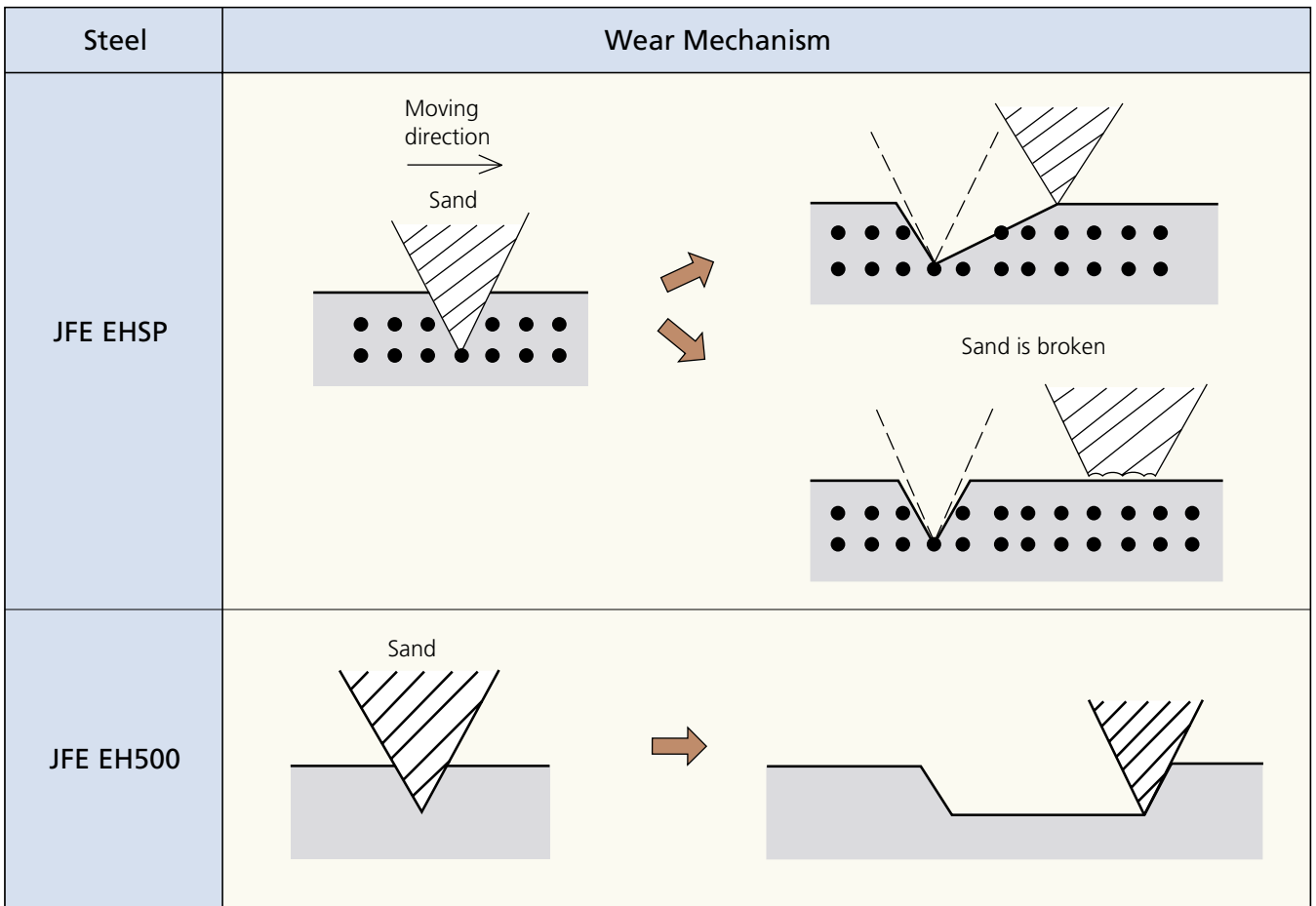
Super Abrasion-Resistance

JFE-EHSP vs Conventional material



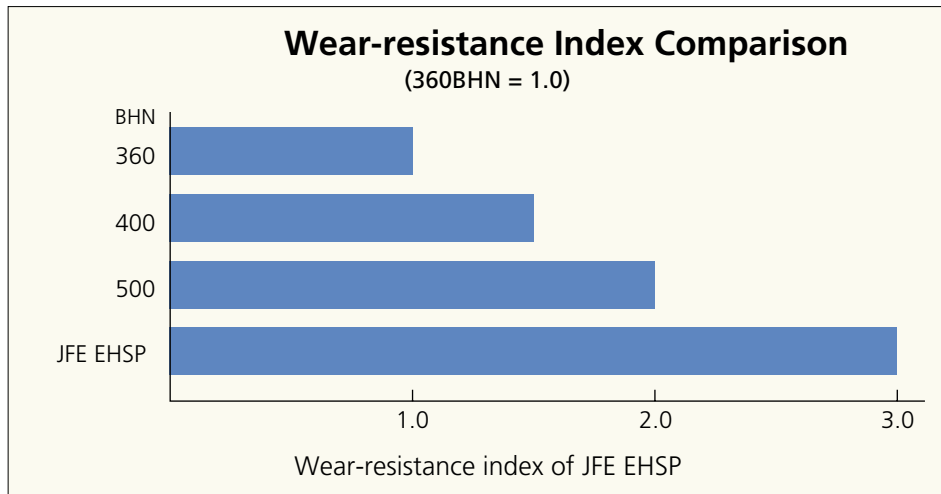
Titanium carbide

Relationship between hardness and abrasion resistance (Abrasive : flattery sand)



Field Test Comparison

Field tests in various mining plants and power plants prove that the wear-resistance of JFE EHSP exceeds conventional 360 to 500 Brinell steels.



The results of the field test with JFE EHSP at American mines

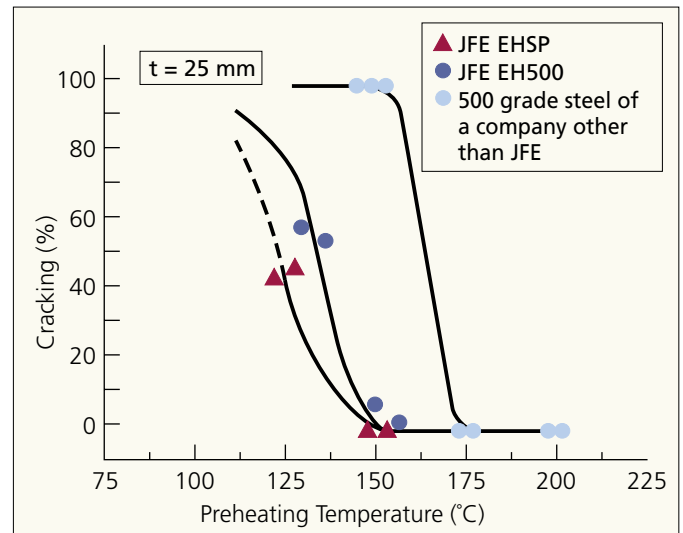
APPLICATION	ABRASIVE	COMPARED WITH	RESULTS* ¹
LOADER BUCKET SKID PLATES	GOLD	500 BHN STEEL	1.60
CHUTE LINERS	GRANITE	500 BHN STEEL	1.50
LOADER BUCKET HEEL PLATES	CONCRETE	500 BHN STEEL	1.50
TRUCK BODY LINER PLATES	COPPER	500 BHN STEEL	1.55
CRUSHER DISCHARGE HOPPER	COPPER	500 BHN STEEL	1.52
CRUSHER FEEDER	COPPER	500 BHN STEEL	1.53
CRUSHER CHUTE	COPPER	500 BHN STEEL	1.52
TRUCK BODY LINER PLATE	GOLD	360 BHN STEEL	3.00
DRAGLINE BUCKET SHROUDS	ROCK QUARRY	400 BHN STEEL	1.90
CRUSHER PARTS	CONTRACTOR	500 BHN STEEL	2.70
RIPPER TOOTH	CONTRACTOR	OVERLAY	1.12
TRUCK LINER PLATES	COPPER	500 BHN STEEL	1.30
SHOVEL BUCKET	COAL	HARDOX500	1.50
COAL CHUTE	POWER PLANT	500 BHN STEEL	1.60
VIBRATORY FEEDER	GOLD	500 BHN STEEL	1.40
SHOVEL BUCKET	COAL	HARDOX400	2.30
CHUTE	COPPER	HARDOX500	1.40
SPLITTER GATE	COPPER	HARDOX400	2.00
CRUSHER PARTS	GOLD	500 BHN STEEL	1.50
CHUTE	ROCK QUARRY	450 BHN STEEL	1.40

NOTE: *1 Material compared with = 1.0

Weldability

JFE is always developing and improving the abrasion resistant steel plates in consideration of weldability. JFE EHSP shows almost same weldability as that of conventional JFE EH500 while abrasion-resistance of EHSP is superior.

Please note that there exists a difference of weldability among companies' products and JFE's EH500 is superior in weldability.



y-groove weld cracking test





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