

Production process

Basic performance of
WKL wear-resistant
steel

Market price
comparison

WKL-ABC
metallographic
structure diagram

Excellent quality
control

WKL-ABC wear-resistant plate is produced by high-temperature infiltration after coating wear-resistant alloy of a certain thickness (depending on actual need of the customer) containing large amount of high chromium iron powder, carbon, molybdenum, manganese, tungsten, niobium, boron and various hard particles on Q345B medium-carbon steel at one time, which belongs to metallurgical combination.

1. Chemical composition % (wear-resistant layer)

C	Cr	Si	Mn	Ni
3.0-5.1	28-40	0.53-0.64	0.58-1.61	0.11-0.15
Mo	B	W	Nb	
0.13-0.19	0.57-0.63	3.06-3.15	0.046-0.49	

Note: change of chemical composition depends on thickness change of the wear-resistant layer.

2. Hardness

The macroscopic hardness range of WKL-ABC wear-resistant layer is 55-66HRC. The highest hardness of the wear-resistant layer may reach HRC68 depending on customer's requirements.

3. Metallographic structure

The WKL-ABC wear-resistant layer contains Austenite+ Martensite + various carbides (such as SiC , CrC and Wc , etc.). The WC particle hardness may reach up to 1900HV.

4. Wear-resistance

The WKL-ABC wear-resistant layer passes the wearing test with wear resistance 2.5 times better than Swedish HARDOX plate, 28-30 times better than Q345B and 3-3.5 times better than cast steel wear-resistant plate and domestic surfacing plate.

5. Surface levelness and error

The WKL has a smooth and level surface with $500mm \leq \text{length of wear-resistant plate} < 10000mm$, levelness error of $\pm 1mm$ and thickness error of $\pm 0.5mm$.

6. Temperature

The WKL-ABC wear-resistant layer can be used normally under $550-1200^{\circ}C$.