



# AR550

## Wear Resistant Steel

### TECHNICAL SHEET

#### 1 Chemical Composition

Plate Thickness	C	Si	Mn	P	S	Cr	Ni	Mo	B	Supply Hardness(HB)	Supply Condition
6mm - 20mm	0.35	0.80	1.60	0.025	0.010	1.10	1.00	0.50	0.005	550BHN	Q & T

#### 2 Other mechanical properties (typical values)

Yield Strength (MPa)	Tensile Strength Transverse (MPa)	Elongation A5 (%)
1575	1750	7

#### 3 Main Characteristics and Applications

AR550 is a high-performance martensitic steel, renowned for its exceptional abrasion resistance. With an average hardness of 550 Brinell, it provides unparalleled protection against wear and tear. Its exceptional durability makes it a prime choice for industries demanding long-lasting equipment, such as recycling, mining and quarrying. The combination of exceptional hardness and strength ensures AR550's suitability for the rigorous demands of these sectors.

##### Applications:

- Linings and Shrouds
- Recycling, Mining and Quarrying
- Cutting Edges
- Hammers and Cutters

#### 4 Heat Treatment

AR550 achieves its desirable properties through a quenching process, followed by tempering when necessary. However, its specific characteristics cannot be maintained if it is exposed to service or preheating temperatures exceeding 250°C. AR 550 is not designed for any additional heat treatment.

#### 5 General Processing Recommendations

To maximize productivity when working with AR550, it's crucial to follow the specific procedures and use the recommended tools outlined below.

##### Thermal Cutting

Plasma and flame cutting can be performed on AR550 steel up to 20 mm thick without preheating, provided the ambient temperature is above 0°C. After cutting, allow the parts to cool gradually to room temperature. This slow cooling process helps prevent cut edge cracking. Avoid accelerating the cooling of the cut parts.

##### Welding

AR550 can be welded using a variety of conventional methods, both manual and automated. Welding should be performed at ambient temperatures no lower than +5°C. After welding, allow the welded parts to cool slowly to room temperature; avoid accelerating the cooling process.

For single plates up to 10 mm thick, preheating is not necessary if using a heat input of 1.7 kJ/mm. The interpass temperature should not exceed 225°C. Use soft weld consumables that produce low-hydrogen weld deposits ( $\leq 5$  ml/100g). The consumable strength should be as soft as the design and wear mode permit.

Follow the welding recommendations outlined in EN-1011 for optimal results.

##### Machining

AR550 is machinable using HSS and HSS-Co alloyed drills, though adjustments in feed rate and cutting speed are necessary due to its high hardness. For operations like face milling, counterboring, and countersinking, tools with replaceable cemented carbide inserts are recommended.



SANDEEP EDGETECH LIMITED

NCR | New Delhi | Mumbai

+91-9654956890, +91-11-43360000 | sales@sandeepedgetech.com

www.sandeepedgetech.com

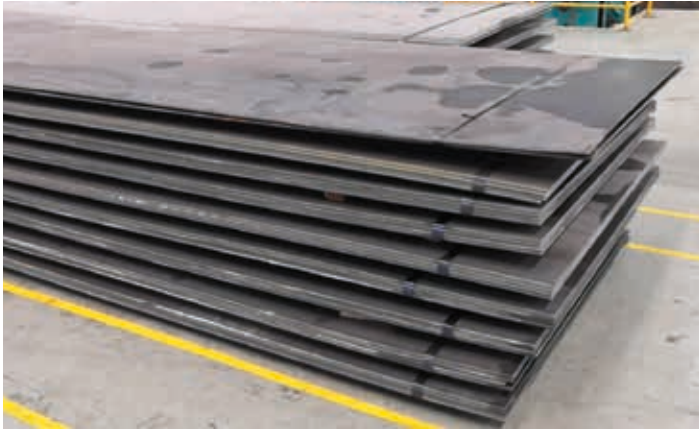
**SANDEEP**  
**EDGETECH**  
STEEL SOLUTIONS



# AR550

## Wear Resistant Steel

### TECHNICAL SHEET



**SANDEEP EDGETECH LIMITED**

NCR | New Delhi | Mumbai

+91-9654956890, +91-11-43360000 | [sales@sandeepedgetech.com](mailto:sales@sandeepedgetech.com)

[www.sandeepedgetech.com](http://www.sandeepedgetech.com)

**SANDEEP  
EDGETECH**  
STEEL SOLUTIONS