

Title (en)

Air-hardenable steels with a duplex bainite-martensite microstructure.

Title (de)

Lufthärtende Stähle mit Zwei-Phasen-Mikrostruktur-Bainit-Martensit.

Title (fr)

Aciers auto-trempants à structure duplex bainite-martensite.

Publication

EP 0348633 A1 19900103 (EN)

Application

EP 89107783 A 19890428

Priority

- CN 88102230 A 19880430
- US 28349188 A 19881212

Abstract (en)

Air-hardenable steels of duplex bainite/martensite microstructure consisting essentially of 0.10 to 0.7% C, 0.1 to 2% Si, 2.1 to 3.5% Mn, 0.0005 to 0.005% B, up to 3.5% Cr and preferably containing Cr in amount of at least 0.1%, balance Fe except for incidental impurities. Optional elements are up to 1.5% W, 1.0% Mo, 0.15% V, 0.2% S, 0.1% Ca, 0.1% Pb, 0.1% Ti and 0.2% total rare earths. At least 1.0% Cr is especially preferred and if below such amount, total Mn and Si is at least 3% and in such case, if C is under 0.47%, at least 0.6% Si is present. The steels are hardenable to Rc 20 to Rc 58 and have a hardenable diameter in the range between 35 mm and 80 to 100 mm by air-cooling only, together with good strength, toughness and fatigue- and wear-resistance.

IPC 1-7

C22C 38/38

IPC 8 full level

C22C 38/38 (2006.01)

CPC (source: EP)

C22C 38/38 (2013.01)

Citation (search report)

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