



EN10083-2 C50, C50E Steel Plate

C50 / C50E material is medium carbon steel with high strength steel. It is usually used in normalizing, quenching or tempering condition. C50 / C50E grade steel is used in the manufacture of mechanical products and spring pieces, such as forging gear, tie rod, roller, shaft, friction plate, agricultural spindle dig plowshares and heavy-duty spindle bearing, etc. [C45](#), C50E steel plates are also with high wear resistance property.

Chemical Composition of [EN10083-2: C50/ C50E Steel](#):

C: 0.47-0.55, Si: 0.4, Mn: 0.6-0.9, P: 0.03, S: 0.035, Cr: 0.4, Mo: 0.1, Ni: 0.4

Mechanical Properties in quenching and tempering condition (room temperature):

C50/ C50E: diameter $\leq 16\text{mm}$ or thickness $\leq 8\text{mm}$:

Tensile strength σ_b (MPa): 750-900

Yield strength σ_s (MPa): ≥ 520

Elongation δ_5 (%): ≥ 13

C50/ C50E: $16\text{mm} < \text{diameter} \leq 40\text{mm}$ or $8\text{mm} < \text{thickness} \leq 20\text{mm}$:

Tensile strength σ_b (MPa): 700-850

Yield strength σ_s (MPa): ≥ 460

Elongation δ_5 (%): ≥ 15

C50/ C50E: $40\text{mm} < \text{diameter} \leq 100\text{mm}$ or $20\text{mm} < \text{thickness} \leq 60\text{mm}$:

Tensile strength σ_b (MPa): 650-800

Yield strength σ_s (MPa): ≥ 400

Elongation δ_5 (%): ≥ 16

Recommended temperature in heat treatment: Normalizing: 830°C ,

Quenching: 830°C , tempering 600°C

Equivalent material: SAE J403 1050 steel, JIS G4051 S50C steel

Delivery condition of C50/ C50E steel: heat treatment (Q+T, annealing, normalizing or high temperature tempering), without heat treatment.

Based on positive and pragmatic attitude, efficient management system, and perfect after-sale service, Shanghai Katalor guarantees to provide you with the best C50, C50E steel plates, C50 round bar or C50Es steel pipes. With our strong machining service, we can process the C50 and C50E raw material into C50/C50E steel works, steel structures and steel machining parts. If you have any needs, please feel free to contact us. We can offer you the technical support according to your demand, and also will offer you best quality and service.

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Shanghai Katalor Enterprises Co., Ltd located in shanghai of china, is specialized in manufacturing and exporting steel and casting product. Based on the domestic rich product resources and professional research on international market, Katalor's service has already spread many countries in Europe, America, Southeast Asia, Middle East, South America, Africa, and so on.

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