株式会社 藤井製作所
FUJII MANUFACTURING CO.,LTD.

High strength Free Cutting Phosphor Bronze

High strength Free Cutting Phosphor Bronze (FX403) is an alloy of adding Ni, and Pb in the C5212, our original of improving significantly (tensile strength, hardness) Various mechanical performance values, also combines free-cutting more product.
I can be expected as a replacement product of copper beryllium free-cutting.

Product size

Size　　φ1.0 ～ φ7.0
Shape　　bar product (Center-less product also available)

Product features

・Strength

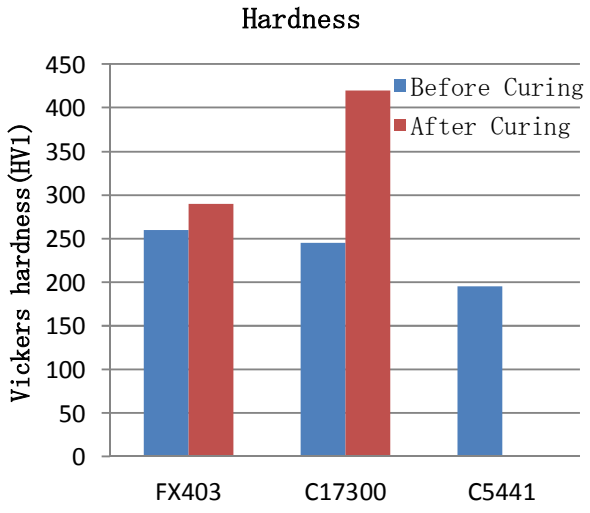
Alloy No.	Before Curing		After Curing	
	Vickers hardness (HV)	Tensile strength (MPa)	Vickers hardness (HV)	Tensile strength (MPa)
FX403	240-260	800-900	※270-300	900-1000
C17300	210-245	700-800	370-420	1290-1420
C5441	180-195	500-700	-	-

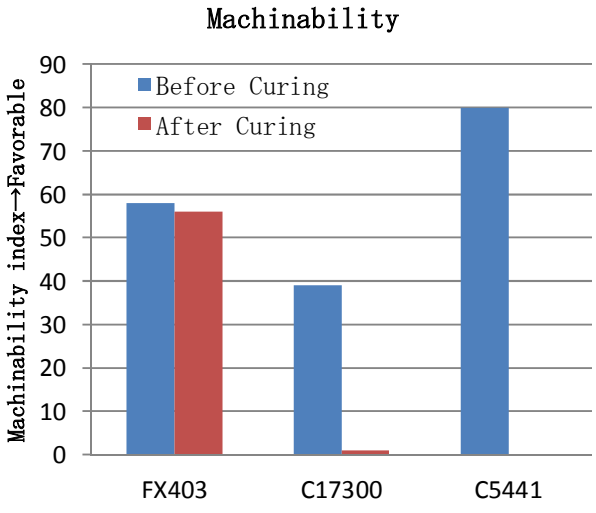
※ Strength will be improved by applying a stress relief heat treatment at low temperature (310 ℃ before and after).

・Machinability index・・・converted the drilling resistance value with a drill.

Alloy No.	Before Curing	After Curing
FX403	58	56
C17300	39	1
C5441	80	-

FX403 I will keep the machinability strength up after.





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Product strength comparison

Each value is different for each size. shows a representative value of φ4.0.

	Vickers hardness (HV)	Tensile strength (MPa)	0.2% Proof stress [Yield strength] (MPa)
FX403B-H	270	940	835
C5441B-H	210	620	480