C90300 Tin Bronze Casting Material

Introduction

C90300 is a tin bronze sand-casting grade specified in ASTM B584. The standard specifies composition and applicable mechanical requirements for general applications. Casting process options include Sand Casting, subject to the applicable specification and component requirements.

Manufacturing Process

Sand Casting

Equivalent Grades

N/A

Reference Standards

Standard	Standard Title	Edition	Specification	Identifier
ASTM B584	Standard Specification for Copper Alloy Sand Castings for General Applications	14	C90300	UNS C90300, source_designation modified G bronze, 88-8-0-4

Physical Properties

N/A

Chemical Composition

Element	ASTM B584 Edition 14 · wt.%
Cu	86.0–89.0[1]
Zn	3.0–5.0
Sn	7.5–9.0
Pb	<= 0.30
Fe	<= 0.20
Al	<= 0.005
Si	<= 0.005
P	<= 0.05
S	<= 0.05

Notes

ASTM B584 · Edition 14

[1] Cu: In determining copper minimum, copper may be calculated as copper plus nickel. Optional source-defined copper-minimum calculation; do not sum measured or specified limits automatically.

Heat Treatment

NO HEAT TREATMENT

Mechanical Properties

Property	ASTM B584 Edition 14[1]
Elongation	>= 20 %
Tensile Strength	>= 40 ksi / 276 MPa (reference)[2]
Yield Strength	>= 18 ksi / 124 MPa (reference)[3]

Notes

ASTM B584 · Edition 14

[1] All properties in this column: separately cast test bar; 2 in. or 50 mm; 8.1

[2] Tensile Strength: inch-pound

[3] Yield Strength: inch-pound; 0.5% extension under load

Welding Conditions

N/A

Applications

At the material-family level, typical applications include custom tin bronze sand-cast components for general industrial use. Selection for a particular application depends on the specified alloy and component requirements.

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Casting Quality Industrial

As a professional manufacturer in China, We Casting Quality focus on Metal Parts OEM industry, and provide solutions and services in Metal Casting field as following:

Sand Casting

Investment Casting, Lost Wax process

Shell Casting

Lost Form Casting

Permanent Mold Casting

CNC Machining

CAD Design

Tools/Mold Design

Material Supplied

Cast Iron Castings (Grey Iron, Malleable Iron, Ductile Iron)

Carbon Steel and Alloy Steel Castings

Stainless Steel and Duplex Stainless Steel Castings

Aluminum Castings

Bronze and Brass Castings

Titanium and Cobalt Alloy Castings

What We Can Do

Design Ability

Our engineers will help you to improve the designs based on casting technology, then The simulation software will be processed to verify the casting pouring system. Pro/E, Solidworks, AutoCAD and ProCast are available in Casting Quality Industrial.

Saving Cost

Some manufacture processes may lead high cost. We will analyses the designs and advise the suitable methods to our customers. The best solution will be adopted.

Quality Control

From the raw material selecting to bulk production processing, all procedures will follow PPAP program if necessary. The certificates will be provided including chemistry, hardness, mechanical property or NDT testing.

Production Capacity

The max iron/steel castings can reach 30tons in weight, meanwhile the minus casting is around 1gram only.

We also have prototyping and 3D scanning ability for sample plan.

Logistic Service

The products will be delivered directly to customer’s workshop, which will save plenty of work for clients.

Contact with Us Immediately:

Mark Wang

Email: mark@castingquality.com

WhatsApp: +861396488078

Website: www.castingquality.com

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