

Product Directory

Milward Alloys, Inc., is a manufacturer of hardeners, grain refiners, modifiers and deoxidants for the aluminum and copper melting industries. Milward's master alloys are precisely combined, melted, and packaged additives, made of primary metals and chemicals, designed to satisfy contemporary metallurgical needs.

Aluminum-based Master Alloys

	Standard Concentrations in Percentage
Beryllium	1, 2.6, or 5
Bismuth	2 or 8
Boron	3, 4, or 5
Chrome	10 or 20
Copper	20, 33, 50 or 54
Iron	15 or 25
Magnesium (Mg)	25 or 50
Manganese (Mn)	25, 75, 80, or 85
Nickel	20
Silicon	20, 36, or 50
Strontium	3.5, 10, or 15
Titanium	6 or 10
Titanium-Boron	3/1 or 5/1
Titanium-Carbon	3/.15
Vanadium	5
Zinc	50
Zirconium	5 or 10

Copper-based Master Alloys

	Standard Concentrations in Percentage
Aluminum	46, 50, 66, or 80
Chrome	5 or 10
Copper shot/chops	99.90
Iron	10 or 50
Magnesium (Mg)	20
Manganese (Mn)	30
Nickel	30
Phosphorus	8, 13, or 15
Silicon	15 or 30

Additives

Milward Alloys also supplies Chromium, commercially pure Magnesium, electrolytic Manganese (flakes and powder), Silicon (metallurgical grades), Potassium Fluoroborate (KBF_4), Potassium Fluorotitanate (K_2TiF_6), Potassium Aluminum Fluoride (PAF K_3AlF_6), B Flux, M Flux, and 75% and 80% Manganese, Iron, and Chrome Briquettes.

Forms

Aluminum-based Master Alloys

- Waffle Ingot - 16 lbs. (7 kg)
- Notch-bar Ingot - 15 lbs. (7 kg) and 50 lbs. (22 kg)
- Cut Waffle - 1 lb. (0.5 kg)

Aluminum-based Precision-addition Alloys

- ACU-COIL Rod - 3/8 in. (9.5 mm)
 - 400-lb. coils (180 kg)
 - 600-lb. coils (275 kg)
 - 1000-lb. coils (450 kg)
- ACU-STIX - 0.980-in. (22.5 mm) Extruded Rod
 - 2-oz. (50 g) pieces - approx. 2 in. (5 cm)
 - 4-oz. (100 g) pieces - approx. 4 in. (10 cm)
 - 6-oz. (150 g) pieces - approx. 6 in. (15 cm)
 - 8-oz. (200 g) pieces - approx. 8 in. (20 cm)
- ACU-BAR - 1.375-in. (35 mm) Extruded Rod
 - 1-lb. (0.5 kg) pieces - approx. 8 in. (20 cm)
 - 2-lb. (1 kg) pieces - approx. 16 in. (40 cm)
- Cut Rod - 3/8 in. (9.5 mm)
 - 1-oz. (30 g) pieces - approx. 6 in. (15 cm)
 - 6.5-oz. (200 g) pieces - approx. 40 in. (1 m)

Copper-based Master Alloys

- Shot - Sized to specification within half-inch x 1/16-inch (13 mm x 2 mm)
- Bagged Shot
 - 2-oz. (60 g) bags
 - 4-oz. (120 g) bags
 - 6-oz. (180 g) bags
- Waffle - 44 lbs. (20 kg)
- Bar Ingot - 40 lbs. (18 kg)
- Cut Bar
 - 3 lbs. (1.5 kg)
 - 10 lbs. (4.5 kg)
 - 20 lbs. (9 kg)

Packaging

- Steel or fiber drums on pallets
- Wood or cardboard pallet boxes
- Stretch-wrapped on pallets

Stock & Special Orders

- Most items in stock (others 1 to 2 weeks)
- Custom shapes and alloys available
- Custom induction melting with DC casting and extrusion of aluminum alloys
- Unique semi-casting capability