

Braze Welding Alloy

Harris 40 FC

Bronze Alloy for Torch

Applications: Harris 40 FC is superior to conventional brazing rods. The uniquely formulated coating reduces fuming and zinc loss; it is extremely active and permits sound, porous-free deposits, even over rust and dirt when adequate cleaning cannot be accomplished. Harris 40 FC is excellent for brazing cast iron, steels, copper, copper alloys, nickel, nickel alloys, galvanized iron or dissimilar combinations of these metals and alloys.



Procedure: For maximum results, the joint areas should be clean; however, rusty steels can be joined without cleaning. Heavier sections should be beveled. Utilizing a neutral flame, the alloy should be applied with a normal brazing technique. Flux residue should be removed by wire brushing with hot water.

Features:	Tensile strength - Up to 65,000 psi	Stock No.	Sizes
	Color matches yellow brasses	3/32" (2.4 mm) x 18" (457 mm)	040FC50
	Solidus - 1590°F Liquidus - 1630°F	1/8" (3.2 mm) x 18" (457 mm)	040FC60
	Excellent machinability	3/16" (4.8 mm) x 18" (457 mm)	040FC80

Packaging: Harris 40 FC is packed in five pound tubes, four tubes per twenty pound carton.

Harris 14 Bare and 14 FC

Nickel Silver Alloy

A Bead Forming Alloy for Buildup and Joining all Ferrous and Nonferrous Metals (except the white metals).

Applications: This versatile alloy was developed for poor-fit, high strength joining; also for overlaying shafts and other surfaces requiring resistance to frictional wear. It is excellent to restore worn or broken metal, e.g. gear teeth, bearings, bushings, drill tangs, worn keyways, sprockets, steering knuckles, etc.

Procedure: The weld area should be thoroughly cleaned. Bevel heavier sections. Utilize a brazing technique with a neutral flame. Work with inner cone approximately 1/4" from the metal, while holding the torch at a low angle. For rapid buildup work, the alloy will solidify immediately if the flame is turned upward from the molten metal at the end of each pass. Use Harris 17 FLUX with bare rods. Flux residue should be removed by wire brushing with hot water.

Features:	Tensile strength - Up to 85,000 psi	Frictional resistance - Excellent
	Solidus - 1690°F Liquidus - 1715°F	Machinability - Excellent
	Work hardens up to 200 Brinell	

Sizes (Harris 14 Bare)	Stock No.	Sizes (Harris 14 FC)
3/32" (2.4 mm) x 18" (457 mm)	0001450	3/32" (2.4 mm) x 18" (457 mm)
1/8" (3.2 mm) x 18" (457 mm)	0001460	1/8" (3.2 mm) x 18" (457 mm)
3/16" (4.8 mm) x 18" (457 mm)	0001480	3/16" (4.8 mm) x 18" (457 mm)
1/4" (6.4 mm) x 18" (457 mm)	0001490	

Packaging: Harris 14 Bare and 14 FC are packed in five pound tubes, four tubes per twenty pound carton.



Braze Welding Alloy

Harris 17 Bare and 17 FC

A Premium Thin Flowing, High Strength, Brazing Alloy for all Ferrous and Nonferrous Metals (except the white metals)

Applications: In as much as small deposits of this alloy yield very high strengths, it is ideal for maintenance repairs where close fitting joints are desirable, e.g. drill bits and drill bit extensions, tubular steel, furniture repairs, milling cutters, broaches, etc. In some applications, it can be used as a substitute for costlier silver brazing alloys.

Procedure: The area to be brazed should be clean. Normally this alloy is employed for butt joining with little preparation other than cleaning and grinding of the surfaces. Heavier sections should be appropriately beveled. Use a neutral flame, holding the flame cone close to the joining area. Use Harris 17 FLUX with bare Harris 17 alloy (also, in some applications, when using Harris 17 FC, it is advantageous to use additional Harris 17 FLUX, particularly in "sweating" the alloy into rather large joint areas). Flux residue should be removed by wire brushing with hot water.

Features: Tensile strength - Up to 95,000 psi
Solidus - 1690°F Liquidus - 1715°F
Color - "Silvery" in contrast to bronze rod deposits

Sizes (Harris 17 Bare)	Stock No.	Sizes (Harris 17 FC)
1/16" (1.6 mm) x 18" (457 mm)	0001730	
3/32" (2.4 mm) x 18" (457 mm)	0001750	3/32" (2.4 mm) x 18" (457 mm)
1/8" (3.2 mm) x 18" (457 mm)	0001760	1/8" (3.2 mm) x 18" (457 mm)
3/16" (4.8 mm) x 18" (457 mm)	0001780	3/16" (4.8 mm) x 18" (457 mm)
1/4" (6.4 mm) x 18" (457 mm)	0001790	

Packaging: Harris 17 Bare and 17 FC are packed in five pound tubes, four tubes per twenty pound carton.

Braze Welding Alloy

Low Fuming Bronze 15 Bare & 15 FC Alloy for Torch

Applications: Harris American Low Fuming Bronze is a quality, yet economically priced, alloy for maintenance, repair and fabrication applications on steel, copper, copper alloys, nickel and nickel alloys. Aside from its reasonable price, Harris American Low Fuming Bronze further reduces cost in the savings of time, labor and material. The flux coating on Harris American Low Fuming Bronze FC provides excellent wetting action with no objectionable fuming. The porosity-free deposits yield excellent color match to the yellow

Procedure: For maximum results on all metals, the joint area should be clean and free of rust, oil and grease. Heavy sections should be beveled and the alloy applied by a brazing technique with a neutral flame. In applying the bare rod, use a neutral flame with Harris 600 FLUX. Flux residue should be removed by wire brushing with hot water.

Features: Tensile strength - Up to 65,000 psi
 Brazing temperature range - 1670°F to 1750°F
 Good machinability
 Color matches yellow brasses

Product and Description	Stock Number	Standard Carton	Size
Low Fuming Bronze (Bare)	0001530	50 lb. Bulk Cartons	1/16"
	0001550		3/32"
	0001560		1/8"
	0001570		5-32"
	0001580		3/16"
	0001590		1/4"
	0001595		5/16"
	00015A0		3/8"
Low Fuming Bronze (Flux Coated)	015FC30	Four 5 lb. Tubes in 20 lb. Carton	1/16"
	015FC50		3/32"
	015FC60		1/8"
	015FC70	Five 10 lb. Tubes in 50 lb. Carton	5/32"
	015FC80		3/16"
	015FC90		1/4"

Harris 170 Bare and 170 FC Nickel Silver Brazing Alloy

Applications: Harris 170 is a thin flowing, high strength alloy for maintenance, repair and fabrication applications on steels, copper, copper alloys, nickel and nickel alloys. It is particularly well suited where close-fit, strong "sweat" joints are necessary such as in the brazing of bicycle frames, tubular furniture, etc. Harris 170 FC is flux-coated.

Procedure: The area to be brazed should be clean. No preparation other than cleaning is required if the thickness is 1/8" or less. A butt joint only is needed. Heavier sections should be beveled approximately 15° on each side of the two pieces or more to be brazed. Use a neutral flame with Harris 17 FLUX. Flux residue should be removed by wire brushing with hot water.

Features: Tensile strength - Up to 95,000 psi
 Brazing temperature range - 1720°F to 1800°F
 Uses substantially less filler material than a regular brazing rod.

Product and Description	Stock Number	Standard Carton	Size
170 Bare	0017030	50 lb. Bulk Cartons	1/16"
	0017050		3/32"
	0017060		1/8"
	0017080		3/16"
	0017090		1/4"
170FC (Flux Coated)	170FC50	Four 10 lb. Tubes in 40 lb. Carton	3/32"
	170FC60		1/8"
	170FC80		3/16"
	170FC90		1/4"

Don't GambleChoose Harris Quality!