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Wires

CROSS REFERENCE LIST (chemistry only)				
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WIRES				
Wire Type	**Composition**	**FST p/n**	**Diameter (mm)**	**Typical Properties and Applications**
Pure Aluminum	Al > 99.0% AW1350 AW1100	W-200.1 W-200.3 W-201.1 W-201.3	1.6 mm (1/16") 3.2 mm (1/8") 1.6 mm (1/16" 3.2mm (1/8")	• Coatings are resistant to atmospheric, chemical and heat corrosion • Electrical and heat conductive.
Alloy C-276	Ni Bal. Cr 15.0% Fe 5.0% Mo 16.0% W 4.0%	W-322.1	1.6 mm (1/16")	• Excellent high temperature oxidation and corrosion properties • Good for repair and build-up of similar chemistry super alloy components.
NiCrTi	Cr 45.0% Ti 1.0% Ni Bal.	W-345.1	1.6 mm (1/16")	• Specially designed for Boiler applications • Titanium pre-alloyed, resulting in superior bondstrengths • W-345.1 produces coatings which are extremely resistant to corrosive vanadium and sulfur gases in boiler atmospheres.
Alloy 625	Ni Bal. Cr 22.0% Fe 2.0% Mo 9.0% Nb/Ta 3.5%	W-365.1	1.6 mm (1/16")	• Excellent high temperature oxidation and corrosion properties • Good for repair and build-up of similar chemistry super alloy components • Useful up to 980°C (1800°F)
NiCrAl	Cr 20.0% Al 7.0% Ni Bal. Cored Wire	W-373.1	1.6 mm (1/16")	• Resistant to oxidation and corrosion at high temperature • Undercoat for ceramics topcoat • Recommended for salvage and build-up of mis-machined or worn machine parts.

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NiAlMo	Mo 5.0% Al 5.5% Ni Bal. Cored Wire	W-374.1	1.6 mm (1/16”)	• Recommended for salvage and build-up of both machinable and grindable carbon steels • Good resistance against wear and particles • Used for high strength and low shrink coatings.
NiAl 95/5	Al 5.0% Ni 95.0%	W-375.1	1.6 mm (1/16”)	• Excellent bonding • Oxidation and abrasion resistant at elevated temperatures • Self bonding material. • Suitable for dimensional restoration.
NiAl 80/20	Al 20.0% Ni 80.0% Cored Wire	W-377.3	3.2 mm (1/8”)	• Self bonding material. • Coatings are dense, resistant to oxidation and high temperature and temperatures changes • Mainly used for Flame Wire Spraying.
NiCr 80/20	Ni 80.0% Cr 20.0% Cored Wire	W-385.1	1.6 mm (1/16”)	• Produces coatings which resist corrosive gasses and oxidation temperatures up to 980°C (1800°F) • Used as bond coat for ceramic materials • Coatings are machinable.
NiCrAlY	Ni Bal. Cr 19.5% Al 10,5% Y 0,8%	W-372.1	1.6 mm (1/16”)	• Resistant to oxidation and corrosion at high temperature • Undercoat for ceramics topcoat • Recommended for salvage and build-up of mis-machined or worn machine parts.
Molybdenum	Mo 99.9%	W-400.3	3.2 mm (1/8”)	• Galling and Scuffing resistance • Typical applications include synchroniser rings, selector forks and piston rings.

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Wire Type	**Composition**	**FST p/n**	**Diameter (mm)**	**Typical Properties and Applications**
Stainless Steel 420	13% Cr-Steel	W-504.1 W-504.3	1.6 mm (1/16") 3.2 mm (1/8")	• The best all purpose material for general engineering applications • Excellent wear properties and fair corrosion resistance • Typically used for reclamation • Low shrinkage, allows for thick build-up.
Stainless Steel 316L	Cr 17.5% Ni 12.0% Mo 2.2% C <0,08%	W-510.1 W-510.3	1.6 mm (1/16") 3.2 mm (1/8")	• Type 316L Austenitic Stainless Steel • Good corrosion resistance • Dimensional restoration.
Stainless Steel 307	Cr 18.5% Ni 8.5% Mn 6.5% C <0,12%	W-515.1 W-515.3	1.6 mm (1/16") 3.2 mm (1/8")	• Type 307 Austenitic Stainless Steel • Good corrosion resistance • Dimensional restoration.
High C-Steel	Si 0.20% C 0,80% Mn 0,65% Fe Bal.	W-550.1 W-550.3	1.6 mm (1/16") 3.2 mm (1/8")	• Can be used wherever hard, low shrink steel is required • Poor corrosion resistance • Dimensional restoration.
Low C-Steel	Si 0.12% C <0,15% Mn 1,10% Fe Bal.	W-555.1 W-555.3	1.6 mm (1/16") 3.2 mm (1/8")	• Can be used wherever low shrink steel is required • Poor corrosion resistance • Dimensional restoration.
Ni-WC Ni-Hardcore™	Ni Bal Si 5.0% B 2.0% C 0,7% WC >50%	W-610.1	1.6mm (1/16")	• Nickel Silicon Boron based Wire with >50% Fused Tungsten Carbide (FTC). The coating results in a hard nickel backed matrix (540 HV0,1) with hard FTC particles (2400 HV0.1). Wire is typically for application where a high abrasion resistance is required up to a temperature of 500°C.

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Wire Type	**Composition**	**FST p/n**	**Diameter (mm)**	**Typical Properties and Applications**
NiCrSiBW Ni-Hardcore™	Ni Bal. Si 3.0% B 2.8% Cr 16.0% W 15.0%	W-612.1	1.6mm (1/16”)	• Wire equivalent to Colmonoy® 88. • W-612 is a hard surfacing alloy. This alloy consists of NiCrSiBFe and WC. The combination of complex borides and carbide with the Ni-Cr-B matrix offers excellent hardness (500-600 HV0.3)) and extends the service life of parts exposed to high temperature abrasion, erosion, corrosion, galling and fretting.
NiCrW Ni-Hardcore™	Ni Bal. Si 2.5% B 2.7% Cr 24.0% W 22.0%	W-614.1	1.6mm (1/16”)	• Very similar material to W-612, but due to it higher content of WC has a higher hardness (800-900 HV0.3) and is typically used for the toughest abrasion applications.
Ni-Ceramic	Ni Bal. $ZrO_2Al_2O_3Cr_2O_3$ 30%	W-615.1	1.6 mm (1/16”)	• W-615 is a unique ceramic filled cored wire. A customized oxide blend had been developed for optimum wear resistance. Good oxidation and corrosion resistance and withstand hot erosion. It is recommend to use W-372 a NiCrAlY cored wire a bond coat. A typical Application: Cooling panels of fume extraction units of electric arc furnaces
NiCrSiBW Ni-Hardcore™	Ni Bal. Si 4.5% B 1.6% Cr 20.0% W 2.0%	W-618.1	1.6 mm (1/16”)	• A NiCrBSi cored wire used for wear resistant and corrosion resistant protective coatings. Coatings can be fused after application (self-fluxing). They reach hardness of 500 - 800 HV0,1 and show porosity of below 2%. The coatings can be machined by grinding and polishing. Made exclusively for arc spraying, W-618 is used for high loaded components of chemical plants or food industry, plunger.

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Wire Type	**Composition**	**FST p/n**	**Diameter (mm)**	**Typical Properties and Applications**
FeCrMnSiB Fe-Hardcore™	Cr 26.0% Si 1.5% Mn 1.6% B 3.3% C 0.25 % Fe Bal. Cored Wire	W-662.1	1.6 mm (1/16")	• Hardness approx 55 HRC • Equivalent to 95MXC(*) • Produces a hard, abrasive and corrosion resistant coating • Material has unique feature to increase hardness while in service • Conventional machining provide hard chrome like finish • Low coefficient of friction.
FeCrMnSiB Fe-Hardcore™	Ni 9.0% Cr 23.0% Mo 4.0% Si 1.0% Mn 1.3% Cu 2.0% B 2.3% Fe Bal.	W-663.1	1.6 mm (1/16")	• Hardness approx 45 HRC • Equivalent to 90MXC(*) • Produces a hard, abrasive and corrosion resistant coating • Material has unique feature to increase hardness while in service • Conventional machining provide hard chrome like finish • Low coefficient of friction.
FeCrMnSiB Fe-Hardcore™	Ni 8.0% Cr 21.0% Mo 3.2% Si 1.1% Mn 1.2% Cu 2.0% B 2.3% Fe Bal. Cored Wire	W-664.1	1.6 mm (1/16")	• Hardness approx 50 HRC • Equivalent to 96MXC(*) • Good abrasive and corrosion resistant coating at high temperature • Material has unique feature to increase hardness while in service • Low coefficient of friction.
Fe-Base CrC Fe-Hardcore™	Ni 3.0% Cr 26.0% Mo 0.8% Si 1.6% Mn 1.6% C 1.7% Fe Bal. Cored Wire	W-665.1		• Hardness approx 40 HRC • Equivalent to 98MXC(*) • Produces a hard, abrasive and corrosion resistant coating • Material has unique feature to increase hardness while in service • Conventional machining provide hard chrome like finish • Low coefficient of friction.

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Wire Type	**Composition**	**FST p/n**	**Diameter (mm)**	**Typical Properties and Applications**
Fe-Base WC Fe-Hardcore™	Ni 4.5% Cr 14.0% Si 1.3% Mn 0.6% B 1.9% TiC 6.0% WC 26.0% Fe Bal. Cored Wire	W-667.1	1.6 mm (1/16”)	• Hardness approx 65 HRC • Equivalent to 97MXC(*) • Excellent abrasion resistance • Typical applications include: mining equipment, pump equipment etc.
Pure Copper	Cu 99.9%	W-700.1 W-700.3	1.6 mm (1/16”) 3.2 mm (1/8”)	• Used for electrical conductivity applications, copper reclamation and decorative coatings.
CuAl	Al 10.0% Cu Bal.	W-710.1 W-710.3	1.6 mm (1/16”) 3.2 mm (1/8”)	• Produces dense, wear resistant coatings which are very machinable.
CuAlFe	Al 9.0% Fe 1.0% Cu Bal.	W-712.1 W-712.3	1.6 mm (1/16”) 3.2 mm (1/8”)	• Produces dense, wear resistant coatings which are very machinable.
Monel	Cu 30.0% Ni Bal.	W-717.1 W-717.3	1.6 mm (1/16”) 3.2 mm (1/8”)	• Used for corrosion protection against brine or lye solutions;. however should not be used in acidic environments. • Marine corrosion protection • Excellent finishing.
Alloy 6 Co-Hardcore™	C 0,95% Si 1.4% Mn 0.8% Cr 30% Fe 3.0% W 4.20% Co Bal.	W-856.1	1.6 mm (1/16”)	• Equivalent to Alloy 6 • To be used when excellent resistance to metal to metal wear, oxidation,. High temperatures and corrosive environments • Valves in power industry • Forging and mixing tools • Risers

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Wire Type	**Composition**	**FST p/n**	**Diameter (mm)**	**Typical Properties and Applications**
Alloy 12 Co-Hardcore™	C 1.15% Si 1.8% Mn 0.9% Cr 29% Fe 3.0% W 6.50% Co Bal.	W-866.1	1.6 mm (1/16”)	• Equivalent to Alloy 12 • To be used when excellent resistance to metal to metal wear, oxidation,. High temperatures and corrosive environments • Valves in power industry • Forging and mixing tools • Risers
Alloy T-400 Co-Hardcore™	Mo 28.0% Cr 8.0% Si 2.0% Fe 3.0% Co Bal.	W-850.1	1.6 mm (1/16”)	• Excellent sliding wear properties up to 800 C • Good hardness, oxidation and corrosion properties • Low coefficient of friction • Suitable for applications with low lubrication • Similar to Triballoy 400
Babbitt	Sb 7.5% Cu 3.5% Sn Bal.	W-970.2 W-970.3	2.0 mm 3.2 mm (1/8”)	• Produces dense coatings which are suitable for high speed and heavy duty bearings • Bearing reclamation.

NOTE: in this Consumable Guide the most generally industrial used wire products are listed. If products other than listed in this catalogue are required, please contact our customer support team.