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EXCELLOY INDUSTRIES INC.

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PREMIUM QUALITY MAINTENANCE & REPAIR WELDING ELECTRODES & SYSTEMS

STEEL

EXCELLOY 51 AC/DC ±
For All Low Carbon Steels. The Ultimate All-Position, All-Purpose Electrode.

This electrode is extremely easy to use, performs in all positions, has a self-releasing slag and produces weld deposits with superb bead appearance.
For repair and fabrication of all gauges and thickness of low carbon steel sheets, plates, angle iron, channel and beams. It is ideal for filling holes, building up worn surfaces and correcting machining errors. Due to it's low amperage requirements, thin sections can be welded without danger of burn-through.

* AVAILABLE IN TIG AS 51T
Tensile Strength ..... up to 85,000 psi
Yield Strength ..... up to 70,000 psi
Elongation ..... up to 26%

EXCELLOY 52 AC/DC ±
For Rusty and Dirty Steels, A Superior, All-Position, All-Purpose Maintenance Electrode.

General welding of all structural steels and mild steel pipe. Ideal for use on painted and plated surfaces, as well as tack welding and everyday maintenance welding. Works well where fit-up is poor or when slag interference must be minimized. Exceptional ability to operate under severely adverse conditions.

Tensile Strength ..... up to 80,000 psi
Yield Strength ..... up to 65,000 psi
Elongation ..... Approximately 24%

EXCELLOY 54 AC/DC +
For High-Strength, Low-Alloy Steels.
A Low-Hydrogen Electrode for Repairing T 1 Type Steels.

The Excelloy 54 produces dense, porosity-free welds in all operating positions.
Weld deposits are X-ray quality and crack-free. For joining and build-up of high-strength quenched and tempered steels, such as U.S.S. T1, Alloy, HY80, HY90 and HY100. Commonly used for repair welds on all types of construction, mining and earth-moving equipment.

Tensile Strength ..... up to 115,000 psi
Yield Strength ..... up to 98,000 psi
Elongation ..... up to 20%

EXCELLOY 55 AC/DC +
For Crack-Sensitive Steels.
An Exceptional All-Position Electrode for Steels Requiring a Low-Hydrogen Weld Deposit.

For carbon steels, low-alloy steels and cast steels. It can be used for both joining and buildup. Excellent choice when welding of free machining steels or when overlaying worn parts such as shafts, hubs or castings prior to machining.
The Excelloy 55 is ideal for joining heavy sections that are highly restrained. Outstanding all-position operation.

Tensile Strength ..... up to 82,000 psi
Yield Strength ..... up to 70,000 psi
Elongation ..... up to 28%

EXCELLOY PIPEMASTER AC/DC+
The First Welding Alloy Designed With The Welder In Mind.

Pipemaster is a premium alloy for maintenance and repair welding of pipe, angle iron, channel and structure steels. Exceptional control in all positions due to Pipemaster's proprietary fast-freeze slag system. Meets or exceeds the physical properties as specified by the American Welding Society in AWS A5.1-81 for a class 6010 electrode.

Tensile Strength ..... up to 80,000 psi
Yield Strength ..... up to 65,000 psi
Elongation ..... approximately 24%

METAL PREP

EXCELLOY 56 AC/DC -
For All Metals
High-Speed Cutting and Gouging Electrode.

An extremely efficient cutting and gouging electrode that has the ability to operate with all types of welding machines on all types of metals. For cutting and gouging grooves in steel, stainless steel, cast iron, bronze and nickel alloys. Economically removes defective metal, prepares cracks for welding and cut risers and ingates from fresh castings. Ideally suited for removing frozen nuts and piercing holes.

EXCELLOY 57 AC/DC -
Cutting, Beveling and Piercing Electrode for All Metals.

A unique electrode designed for cutting, beveling and piercing of cast iron, stainless steel, manganese steel, carbon steel, malleable iron, aluminum, copper, bronze, nickel and nickel alloys. Ideal for cutting out defects and removing rivets.

METAL PREP

THERMO SHIELD

A unique, reusable, heat-resistant material that protects parts from overheating. It is ideal as a temporary jigging compound and for protecting nearby surfaces from heat exposure. Available in 1# and 5# containers.

ALLOY STEEL

EXCELLOY 61 AC/DC+
For All Ferrous Metals.
An All-Position Universal High-Strength Alloy for Unknown and Dissimilar Metal Combinations.

This multipurpose alloy can be used on all grades of carbon steel, low-alloy steels, stainless steels, tool steels and high-alloy steels. It is corrosion-resistant, heat-resistant and has an excellent resistance to cracking. Considering it's ease of use and versatility, this electrode is a must for any repair facility.

* AVAILABLE IN TIG AS 61T
Tensile Strength ..... up to 125,000 psi
Yield Strength ..... up to 90,000 psi
Elongation ..... up to 25%

EXCELLOY 62 AC/DC+
A Fully-Alloyed, Corrosion-Resistant Stainless Alloy.

The Excelloy 62 is a high-speed, high-deposition-rate alloyed electrode designed to produce weld deposits that are extremely resistant to pitting in corrosive environments. The addition of molybdenum in this alloy, along with its controlled carbon content makes this electrode a perfect choice for use as an overlaying alloy used in corrosive situations.

*AVAILABLE IN TIG AS 62T
Tensile Strength ..... up to 90,000 psi
Yield Strength ..... up to 63,000 psi
Elongation 40%

EXCELLOY 63 AC/DC+
Resists High Temperature Scaling and Creep.

This alloy can be used for dissimilar metal welding, including steels of high hardenability. Commonly used for the welding of stainless-clad steels, joining of chrome-moly piping. Materials exposed to cyclic heating below 800 degrees F and noncyclic heating above 800 F will be successfully repaired with this product.

*AVAILABLE IN TIG AS 63T
Tensile Strength ..... 85,000 psi
Elongation 22%

EXCELLOY 69 AC/DC+
For Stainless Steel.
A Universal, High-Deposition, Crack-Resistant Alloy.

Developed for use on most common grades of stainless steel. Typically used to fabricate and repair food, dairy and chemical equipment. Can be used where prior weld repairs have failed. This alloy is commonly used as an elastic cushion prior to overlaying with hard surfacing alloys. High deposition rates make this electrode very economical as a build-up alloy.

*AVAILABLE IN TIG AS 69T
Tensile Strength ..... up to 90,000 psi
Yield Strength ..... up to 66,000 psi
Elongation 45%

STUD PULLER

EXCELLOY 61S AC/DC+
Stud Removal.

The ultimate "Problem Solver" for removing broken studs, taps or drills, regardless of alloy composition.

Tensile Strength ..... up to 128,000 psi
Yield Strength ..... up to 90,000 psi
Elongation ..... up to 30%

STAINLESS STEEL

EXCELLOY 68 AC/DC+

Stainless Steel Electrode for vertical down welding of austenitic stainless steels. Resistant to intergranular corrosion.

Vertical down welding for pipelines, sheet metal, and other applications where excellent weldability is needed.
Tensile Strength..... up to 73,000 psi
Elongation..... up to 40%

STAINEX
Excelloy's maintenance line of stainless steel electrodes. All sizes and grades available.

CAST IRON

EXCELLOY 20 AC/DC+
A Unique Dual-Alloyed, High-Deposition Nickel Electrode.

Excelloy 20 produces high-speed, high-deposition deposits on all types of cast iron. This specially-formulated coating and core wire makes it ideal for use as a buildup rod on worn or over-machined castings. Weld deposits feature exceptional strength, ductility and are easily machined.

Tensile Strength ..... up to 70,000 psi
Elongation ..... up to 22%
BHN 220

EXCELLOY 21 AC/DC ±
For Cast Iron.
Ultra-Machinable Alloy for Repair Welding Cast Iron.

The Excelloy 21 is an exceptional out-of-position nickel electrode that produces porosity-free, machinable welds on all grades of cast iron. It's pulsed arc allows you to produce low-heat input welds, while maintaining maximum control, while repairing on all types of cast iron where extremely soft, machinable weld deposits are required. Ideal for intricate or thin-wall gray iron castings. Excellent for repairs on cast iron gears, machine tools, heads, engine blocks and bump housings. This is also an exceptional electrode for joining dissimilar metals such as monel, copper, stainless, nickel and steel.

*AVAILABLE IN TIG AS 21T
Tensile Strength ..... up to 50,000 psi
Elongation ..... up to 30%

EXCELLOY 22 AC/DC+
For Cast Iron.
A Super Strength Alloy for Repairs on Contaminated Cast Iron.

The Excelloy 22 produces high-strength, crack-resistant and porosity-free welds on difficult-to-weld cast irons.
This exceptional electrode can be used on gray, malleable and ductile iron castings. It will produce successful repairs on engine blocks, manifolds, gear housing, transmission cases and gear teeth. It is ideal for producing high-strength welds when repairing thick castings, joining cast iron to steel and repairing high-strength castings.

*AVAILABLE IN TIG AS 22T
Tensile Strength ..... up to 65,000 psi
Elongation ..... up to 10%

EXCELLOY 23 AC/DC+

An All-Position, High-Strength, Non-Machinable Cast Iron Electrode.

It is ideal in the repair of castings that are impregnated with oil, grease, paint and other contaminants that make repairs with nickel electrodes impossible. It can also be used as a buttering pass before using machinable cast iron electrodes.

Tensile Strength ..... up to 60,000 psi
Elongation ..... up to 33%

EXCELLOY 26 AC/DC-
Premium High-Strength Alloyed Electrode for Welding All Cast Irons.

For fabrication and difficult repair of all gray and alloyed cast irons. Recommended for welding cylinder heads, machine bases, gear housings, cams, levers, filling holes, repairing teeth of cast iron gears and buildup or replacing missing sections. Commonly used to weld ductile iron. "NI-Resist" and "Meehanite" to themselves or to steel. Also suitable for joining nickel alloys to gray cast iron, malleable cast iron and cast steel.

Tensile Strength .....up to 80,000 psi (56 kg/mm)
Elongation % .....approx. 20
Hardness (HB)..... approx. 200

ALUMINUM

EXCELLOY 41 DC+
For All Weldable Grades of Aluminum.
An Easy-to-Use, Low-Spatter, Extruded Aluminum Electrode.

The Excelloy 41 DC+ was developed for arc welding and torch brazing of aluminum and aluminum alloys. It's extruded flux coating produces an exceptionally stable, smooth, low-spatter arc. Developed for fabrication and repair of truck frames, highway signs, tanks, engine blocks, guard rails, heat exchangers and injection molds. Replaces MIG and TIG in situations where wind interferes with shielding gas, or where repairs must be field welded. Torch brazing is ideal for buildup of missing or worn sections.

*AVAILABLE IN TIG AS 41T
Tensile Strength ..... up to 34,000 psi
Elongation ..... up to 25%

EXCELLOY 42
Thin-Flowing Aluminum Brazing Alloy.

Specially alloyed for use with torch or TIG on all known weldable and brazable aluminums. It is not necessary to melt the base metal when using this product, because it works similar to silver brazing alloys that are very fluid. Excellent color match, high strength and good electrical conductivity.

Tensile Strength ..... up to 34,000 psi
Bonding Temp. ..... 1050 F

ALUMINUM

EXCELLOY 44
Aluminum Solder.

Low-temperature alloy developed for easy repair of aluminum parts. Ideal for dissimilar joining of aluminum to copper, brass or stainless steel. Ideal for use on zinc die cast.

Tensile Strength ..... up to 8,000 psi
Working Temp. ..... 370 F

HARD FACING

EXCELLOY 70 AC/DC+

A unique, hard-surfacing alloy which produces a work-hardening deposit that resists both severe abrasion and impact. May be applied in multiple layers and high deposition rate will significantly lower application cost. Alloy may be used on steel, manganese steel, cast iron, carbon and alloy steel. Ideal for parts such as crusher rolls, cutter heads, augers, bucket teeth, hammers, etc.

RC 50-54
Work Hardness ..... 60 RC

EXCELLOY 73 AC/DC ±
Wearfacing and Buildup for Severe Impact Applications.

The Excelloy 73 is a high-chromium, high-manganese buildup and joining alloy that combines toughness, wear-resistance and excellent weldability. For repair and buildup of manganese and carbon steel parts that are exposed to severe impact. It is commonly used to weld frogs, switch points, roll crushers and hammers. It will join manganese steel to carbon steel and most alloy steels.

Tensile Strength ..... up to 116,000 psi
Yield Strength ..... up to 77,000 psi
Hardness ..... As Deposited 24 RC
Work Hardness ..... 45 RC

EXCELLOY 76 AC/DC+
Wearfacing.
For Severe Fine Particle Abrasion at Elevated Temperatures.

The Excelloy 76 is a unique wearfacing alloy containing chromium, molybdenum, manganese, vanadium and tungsten. It produces an extremely hard, abrasion-resistant surface that resists temperatures up to 1000 F. It is commonly used where abrasion, especially fine particle abrasion, coupled with high temperatures, creates serious wear problems. Surfaces worn or conveyed or moving cement, coke, gravel, sand, slag or coal can be protected by this extremely hard wear-facing alloy.

Hardness ..... as welded 58-62 Rc
Hot Hardness ..... up to 1000 F

EXCELLOY 77 AC/DC+
Wearfacing.
For Severe Abrasion and Moderate to Heavy Impact.

The Excelloy 77 is a high-alloy solid core electrode offering an excellent combination of abrasion resistance, impact resistance and weldability.
Developed for use on earth-moving equipment, crushers, hammers and other equipment subjected to severe abrasion and impact. The Excelloy 77 bonds readily to carbon steel, low-alloy steel and manganese steel. Weld deposits will cross-check to relieve stress.

Hardness 57 - 60 Rc

EXCELLOY 7007 AC/DC+
A Unique Hardfacing Electrode for Severe Abrasion.

The Excelloy 7007 is a dip-coated multiplex alloyed electrode designed for extremely economical wearfacing applications. Despite its large diameters this electrode can be used with most common welding power supplies. Economy is enhanced by a 96% recovery rate. Low current density reduces heat input into the base metal. Ideal for use on conveyers, screws, augers and plow blades.

Hardness ..... up to 61 Rc

COPPER & BRONZE

EXCELLOY 14

Flux-coated, thin-flowing brazing alloy producing super high strength joints on steel, cast iron, copper and bronze. Ideal for close-fit joining and repair of such parts as drills, broaches and carbide tipping.

Tensile Strength ..... up to 100,000 psi
Brazing Range ..... 1700 F to 1800 F

EXCELLOY 15

Flux-coated, bead-forming, brazing alloy for poor fit and build-up of steel, cast irons, copper and bronze. Deposits are high strength and wear resistant. Ideal for resurfacing parts subject to frictional wear.

Tensile Strength ..... up to 100,000 psi
Hardness ..... 200 BHN
Brazing Range ..... 1700 F to 1800 F

COPPER & BRONZE

EXCELLOY 32 DC+

A tin/bronze electrode for joining and overlaying of cast iron, malleable iron, steel, copper and silicon bronze. Ideal for joining cast steel and where bronze deposit by way of arc is desired.

Tensile Strength ..... up to 60,000 psi
Yield Strength ..... up to 35,000 psi
Elongation 40%
Sizes 1/8, 5/32

EXCELLOY 35

Superior performing, low-fuming bronze alloy for brazing steel, cast iron, copper, brass and bronze. Dissimilar combinations of these metals may be joined.

Tensile Strength ..... up to 65,000 psi
Brazing Range ..... 1500 F to 1700 F
Sizes 3/32, 1/8, 3/16, 1/4

EXCELLOY 36
For All Copper, Copper Alloys, Brass and Bronze.

Excelloy 36 is for use on all copper, copper alloys, brass and bronze. It is self-fluxing on copper. Excelloy 36 features economy and speed, which are as important as its strength and ductility. It features superior wetting and flow, which is vital in maintaining joint size. Excelloy 36 is ideal for use on tubing, sheets, bars and casting, applications found in refrigeration, air conditioning, plumbing and electrical industries.

Tensile Strength ..... up to 42,000 psi
Solidus ..... 1310 F
Liquidus ..... 1460 F

EXCELLOY 37
Premium Silver-Bearing Copper Alloy for Use on Copper and Copper Alloys.

Ideal for joining and sealing dissimilar combinations of copper alloys. Has superior wetting action and low melting point. Excellent electrical conductivity and corrosion resistance. Good color match to copper.

Tensile Strength ..... up to 50,000 psi
Bonding Temp. ..... 1200 F

SILVER

EXCELLOY 12
Premium Multi-Purpose Silver Alloy for Ferrous and Non-Ferrous Metals.

Cadmium-free, thin-flowing, low-temperature for applications where thin-flowing material is necessary. Excellent for dissimilar metals and thickness. Good electrical conductivity on high and low carbon steels, stainless carbides, nickel and copper alloys.

Tensile Strength ..... up to 86,000 psi
Bonding Temp. ..... 1120 F

EXCELLOY 12FC
Superior Silver.
Alloy Specially Coated for Joining of Ferrous and Non-Ferrous Metals.

Deposits are high strength, corrosion-resistant and have excellent electrical conductivity.
Special coating promotes exceptional wetting out at low temperature, making it ideal for intricate work and dissimilar metals.

Tensile Strength ..... up to 90,000 psi
Bonding Temp. ..... 1120 F

SOLDERS

EXCELLOY 44
Aluminum Solder.

Low temperature alloy developed for easy repair of aluminum parts. Ideal for dissimilar joining of aluminum to copper, brass or stainless steel. Ideal for use on zinc die cast.

Tensile Strength ..... up to 7500 psi
Working Temp. ..... 320 F
* Available in 1/8" diameter x 18"

EXCELLOY 13
Silver Solder.

Premium high strength, silver-bearing alloy for joining copper, stainless steel and dissimilar metal combinations.

Tensile Strength ..... up to 20,000 psi
Working Temp. ..... 431 F
* Available as flux-cored alloy in 9" tubes, 1 lb. spools, 1 lb. paste form and 1 lb. spools of solid wire.

EXCELLOY 11

High Strength, non-silver bearing solder for joining and tinning copper, brass and nickel alloys.

Tensile Strength ..... up to 8,000 psi
Working Temp. ..... 370 F
* Available in 1 lb. containers

EXCELLOY INDUSTRIES INC.

Also offers a complete line of Tool Steels, Hot and Cold Spray Powders and Torches, and a variety of other Welding Aids.
For More Information Contact Your Local Excelloy Sales Representative.