

Metals And Welding Specialities is a trusted supplier of **ULTIMET Welding Electrodes**, designed for exceptional corrosion and wear resistance in the most demanding industrial environments. These electrodes are composed of a cobalt-based alloy that combines the superior toughness of cobalt with the high strength and corrosion resistance of chromium, molybdenum, and tungsten. The **ULTIMET alloy** delivers a unique balance of mechanical durability and metallurgical stability, making it ideal for applications where extreme heat, oxidation, and chemical attack are constant threats.



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The **ULTIMET Coated Electrode** is classified under **UNS R31233** and conforms to **ASTM F90 / AMS 5877** standards. It is widely recognized under the **Universal Standard name ULTIMET**. These electrodes are engineered to provide excellent arc stability and slag detachability, ensuring smooth weld deposits with minimal spatter. The weld metal produced exhibits superior hardness and resistance to both galling and cavitation. This makes it a preferred choice for maintenance, repair, and overlay applications in industries such as chemical processing, pulp and paper, marine engineering, aerospace, and power generation.



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The microstructure of the ULTIMET alloy consists primarily of a solid-solution matrix strengthened by chromium and molybdenum carbides. This metallurgical structure contributes to its outstanding resistance against pitting and crevice corrosion in chloride-rich environments. Moreover, the weld metal retains its mechanical properties even after long-term exposure to high temperatures, ensuring longevity and reliability in service. Metals And Welding Specialities' **ULTIMET welding electrodes** are suitable for both manual metal arc welding and automatic overlay operations, allowing flexibility across various production setups.

When used properly, these electrodes yield weld overlays that demonstrate excellent bonding with base materials such as stainless steels, nickel alloys, and other corrosion-resistant metals. The deposit typically exhibits a hardness range of 30–35 HRC, depending on dilution and heat input, which can be optimized further by post-weld heat treatment. With Metals And Welding Specialities' stringent quality control and precise formulation, users can expect consistent electrode performance and uniform deposit quality in every batch.



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These **ULTIMET Welding Electrodes** have proven themselves in applications like valve seats, pump sleeves, agitator blades, turbine components, and chemical reactor parts where surface integrity and resistance to mechanical wear are critical. They offer a cost-effective solution for extending component life while reducing maintenance downtime. For customers requiring dependable corrosion and wear protection under harsh conditions, Metals And Welding Specialities' ULTIMET electrodes deliver long-term value, stable performance, and exceptional metallurgical quality.

In summary, Metals And Welding Specialities' ULTIMET Welding Electrodes bring together advanced alloy design, robust corrosion resistance, and reliable weldability. Whether you're building new acid-resistant systems or carrying out repair work, our electrodes provide a dependable welding consumable that handles harsh environments with confidence.

## Specification ULTIMET Welding Electrodes



<b>Classification</b>	<b>AWS</b>
<b>Form</b>	Welding Electrode, Welding Rods
<b>Type Of Current</b>	Direct Current Electrode Positive (DCEP)
<b>Diameters</b>	3/32", 1/8", 5/32", 3/16" or 2.5mm, Ø 3.2mm, Ø 4.0mm, Ø 5.0mm
<b>Size</b>	2.0mm ∞ 5.0mm
<b>AC/DC+</b>	50-80, 80-110, 100-135, 140-180

<b>Welding Positions</b>	All positions 5/32" & 3/16" recommended for use in flat & horizontal positions only (F, V, OH, H)
<b>ULTIMET Welding Electrodes Application &amp; uses</b>	Petroleum Chemical plant Power sector Gas Industry Hardware tools Metallurgy Machinery Construction Shipbuilding

## Equivalent Grade Of Ultimet Welding Electrodes



Class	UNS
ULTIMET®	R31233

## ULTIMET Welding Electrodes Chemical Composition



<b>Cobalt:</b>	Balance
<b>Chromium:</b>	23.50-27.50
<b>Nickel:</b>	7.00-11.00
<b>Molybdenum:</b>	4.00-6.00
<b>Iron:</b>	1.00-5.00
<b>Tungsten:</b>	1.00-3.00
<b>Manganese:</b>	0.10-1.50
<b>Silicon:</b>	0.05-1.00
<b>Other:</b>	0.50 max.
<b>Nitrogen:</b>	0.03-0.14
<b>Carbon:</b>	0.02-0.10
<b>Phosphorus:</b>	0.030 max.
<b>Sulfur:</b>	0.020 max.

## People Also Searched

ULTIMET R31233 welding electrodes, UNS R31233 filler metal, ULTIMET alloy rods, ASTM F90 coated electrodes, cobalt alloy electrodes, AMS 5877 filler wire, ULTIMET welding wire, corrosion-resistant electrodes, cobalt-chromium welding rods, wear-

resistant alloy electrodes, high-temperature welding alloy, ULTIMET overlay electrodes, UNS R31233 welding rod price, ULTIMET TIG filler metal, cobalt-based superalloy electrodes, Metals And Welding Specialities ULTIMET electrodes, ULTIMET MIG wire, ULTIMET stick electrodes, UNS R31233 chemical composition, ASTM F90 mechanical properties, ULTIMET welding applications, cobalt alloy overlay, cobalt-chromium-molybdenum electrodes, industrial welding rods, hardfacing electrodes, marine-grade welding alloys, pump and valve repair electrodes, oxidation-resistant filler metals, ULTIMET for chemical plants, AMS 5877 cobalt alloy, cobalt-based wear alloy, high-strength corrosion-resistant alloy, ULTIMET electrode suppliers, ULTIMET coating material, cobalt-chrome alloy welding, heat-resistant welding electrodes, ULTIMET UNS R31233 composition, cobalt superalloy filler metal.