UNIBRAZE® ERTi-1

Specifications: AWS A5.16 ASME SFA 5.16

Classification: ERTi-1

Description:

UNIBRAZE ERTi-1 is the lowest strength unalloyed, or commercially pure titanium available. It is normally used in applications where ductility is paramount. Applications include explosive cladding, expanded metal, and deep drawing applications. As with all titanium alloys, UNIBRAZE ERTi-1 is extremely reactive above 1000°F and extra precaution must be taken to have a succesful welds. UNIBRAZE ERTi-1 can be welded by the GTAW, GMAW and plasma arc processes.

Typical Chemistry Analysis					
C	O	N	H	Fe	Ti
0.03 max	0.03-0.10	0.012 max	0.005 max	0.08 max	Rem

Typical Mechanical Properties		
Tensile Strength	35,000	psi
Yield Strength	25,000	psi
Elongation % in 2"	24	%

UNIBRAZE® ERTi-2

Specifications: AWS A5.16 ASME SFA 5.16

Classification: ERTi-2

Description:

UNIBRAZE ERTi-2 is the "workhorse" of titaniums in the commercially pure titaniums available. It is normally used in applications such as pressure vessles, pipes, columns, tanks, shafts, valves, and fittings. As with all titanium alloys, UNIBRAZE ERTi-2 is extremely reactive above 1000°F and extra precaution must be taken to have a succesful welds. UNIBRAZE ERTi-2 can be welded by the GTAW, GMAW and plasma arc processes.

Typical Chemistry Analysis					
C	O	N	H	Fe	Ti
0.03 max	0.08-0.16	0.015 max	0.008 max	0.12 max	Rem

Typical Mechanical Properties		
Tensile Strength	50,000	psi
Yield Strength	40,000	psi
Elongation % in 2"	20	%

UNIBRAZE® ERTi-5 (Ti 6Al-4V)

Specifications: AWS A5.16 ASME SFA 5.16

Classification: ERTi-5

Description:

UNIBRAZE ERTi-5 (Ti 6Al-4V) is also known as 6-4 titanium. It is the most common and widely used titanium alloy due to is relatively low cost and easy availability. Weldabilityis good and it can be heat treated to a higher strength or toughness. UNIBRAZE ERTi-5 is used in aircraft components such as landing gear, wing spars, and compressor blades. Corrosion resistance is comparable to the UNIBRAZE ERTi-2. It can be welded by the GTAW, GMAW and plasma arc processes.

Typical Chemistry Analysis					
C	O	N	H	Fe	Al
0.05 max	0.12-0.20	0.03 max	0.015 max	0.22 max	5.5 - 6.75
V	Ti				
3.5 - 4.5	Rem				

Typical Mechanical Properties		
Tensile Strength	130,000	psi
Yield Strength	120,000	psi
Elongation % in 2"	10	%

UNIBRAZE® ERTi-7

Specifications: AWS A5.16 ASME SFA 5.16

Classification: ERTi-7

Description:

UNIBRAZE ERTi-7 has the same mechanical properties as the UNIBRAZE ERTi-2 but has the addition of palladium. This improves corrosion performance under mildly reducing conditions or where crevice or under-deposit corrosion is a problem. For this reason UNIBRAZE ERTi-7 can be considered for welding grade 2 or grade 16 titanium where improved corrosion performance is desired. It can be welded by the GTAW, GMAW and plasma arc processes.

Typical Chemistry Analysis					
C	O	N	H	Fe	Al
0.03 max	0.08-0.16	0.015 max	0.008 max	0.12 max	-
Pd	Ti				
0.12-0.25	Rem				

Typical Mechanical Properties		
Tensile Strength	50,000	psi
Yield Strength	40,000	psi
Elongation % in 2"	20	%

UNIBRAZE® ERTi-12

Specifications: AWS A5.16 ASME SFA 5.16

Classification: ERTi-12

Description:

UNIBRAZE ERTi-12 is an intermediate strength grade of titanium originally developed to provide enhanced crevice corrosion resistance in high temperature brines but at a lower cost than the UNIBRAZE ERTi-7. UNIBRAZE ERTi-12 has better elevated temperature than UNIBRAZE ERTi-2 and is sometimes specified for pressure vessels or piping for its superior strength alone. It can be welded by the GTAW, GMAW and plasma arc processes.

Typical Chemistry Analysis					
C	O	N	H	Fe	Ni
0.03 max	0.08-0.16	0.015 max	0.008 max	0.15 max	0.06-0.09
Mo	Ti				
0.2 - 0.4	Rem				

Typical Mechanical Properties		
Tensile Strength	70,000	psi
Yield Strength	50,000	psi
Elongation % in 2"	12	%