Quality Certificate

No.: QC20201222 - dia 2.5mm

dia 3.0mm

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Commodity	Material	Standard	Condition
Ti-6Al-4V ELI Bar	Ti-6Al-4V ELI	ASTM F136	Annealed
Heat No.	Lot No.	Size	Weight
20200301	190316	Ø2.5x2000mm	0.10Kg
20200301	190316	Ø3.0x2000mm	0.10Kg

2. Chemical Composition (Wt%):

Elamont T	т;	Ti Al	17	Eq. C	C	CN	О		Otl	ners
Element	11		v	V Fe		CN		H	Each	Total
Requirements		5.5	3.5							
(Max.)	Bal	-	-	0.25	0.08	0.05	0.13	0.012	0.10	0.40
(Max.)		6.5	4.5							
Results	Bal	5.89	4.06	0.194	0.013	0.023	0.118	0.001	<0.1	<0.4

3. Mechanical Properties:

Test Items	Tensile Strength Rm [Mpa]	Yield Strength Rp0.2 [Mpa]	Elongation A [%]	Area of Reduction Z [%]
Requirements	≥860	≥795	≥10	≥25
Results	954	852	16	42

4. Other Test Items:

Microstructure	Ultrasonic	Dimensional	Visual	Surface
	Test	Inspection	Inspection	Contamination
Qualified	Qualified	Qualified	Qualified	Clean

5. Conclusion and Statement:

We hereby certify that these Titanium Ti-6Al-4V ELI bars/rods herein has been manufactured, sampled, tested, and inspected in accordance with ASTM F136 and other specified requirements of contract number TG20201222a, and met these requirements.

Inspected by	Prepared by	Approved by
Michelle Zhang	Jimmy Liu	Jianyin Xu
Dec.18 th , 2020.	Dec.15 th , 2020.	Dec.15 th , 2020.

Quality Certificate

No.: QC20201222 - dia 5.0mm

1. Description:

Commodity	Material	Standard	Condition
Ti-6Al-4V ELI Bar	Ti-6Al-4V ELI	ASTM F136	Annealed
Heat No.	Lot No.	Size	Weight
2020023	2020023-1	Ø5.0x2000mm	0.40Kg

2. Chemical Composition (Wt%):

Element	Ti Al	V	Fe	$\begin{array}{ c c } \hline C \end{array}$	N		Н	Others		
	11	Ti Al	'	re		11		11	Each	Total
Requirements		5.5	3.5							
(Max.)	Bal	-	-	0.25	0.08	0.05	0.13	0.012	0.10	0.40
(Max.)		6.5	4.5							
Results	Bal	6.10	3.97	0.186	0.027	0.013	0.111	0.0008	<0.1	<0.4

3. Mechanical Properties:

Test Items	Tensile Strength Rm [Mpa]	Yield Strength Rp0.2 [Mpa]	Elongation A [%]	Area of Reduction Z [%]
Requirements	≥860	≥795	≥10	≥25
Results	914	862	18	32

4. Other Test Items:

Microstructure	Ultrasonic	Dimensional	Visual	Surface
Microstructure	Test	Inspection	Inspection	Contamination
Qualified	Qualified	Qualified	Qualified	Clean

5. Conclusion and Statement:

We hereby certify that these Titanium Ti-6Al-4V ELI bars/rods herein has been manufactured,sampled,tested,and inspected in accordance with ASTM F136 and other specified requirements of contract number TG20201222a, and met these requirements.

Inspected by	Prepared by	Approved by
Michelle Zhang	Jimmy Liu	Jianyin Xu
Dec.15 ^h , 2020.	Dec.15 th , 2020.	Dec.15 th , 2020.

Quality Certificate

No.: QC20201222

1. Description:

Commodity	Material	Standard	Condition
Ti-6Al-4V ELI Bar	Ti-6Al-4V ELI	ASTM F136	Annealed
Heat No.	Lot No.	Size	Weight
TG-U201612-007	17041001	Ø6.0x2000mm	1.50Kgs

2. Chemical Composition (Wt%):

Element	Ti	Al	V	Fe	С	N	О	Н	Others	
	11							П	Each	Total
D		5.5	3.5							
Requirements (Max.)	Bal	-	-	0.25	0.08	0.05	0.13	0.012	0.10	0.40
(Max.)		6.5	4.5							
Results	Bal	6.23	4.05	0.217	0.009	0.016	0.002	0.002	< 0.1	< 0.4
	Bal	6.14	3.96	0.194	0.010	0.017	0.001	0.001	< 0.1	< 0.1

3. Mechanical Properties:

Test Items	Tensile Strength Rm [Mpa]	Yield Strength Rp0.2 [Mpa]	Elongation A [%]	Area of Reduction Z [%]
Requirements	≥860	≥795	≥10	≥25
Results	1006	905	25	48

4. Other Test Items:

Microstructure	Ultrasonic	Dimensional	Visual	Surface	
Wherostructure	Test	Inspection	Inspection	Contamination	
Qualified	Qualified	Qualified	Qualified	Clean	

5. Conclusion and Statement:

We hereby certify that these Titanium Ti-6Al-4V ELI bars/rods herein has been manufactured, sampled, tested, and inspected in accordance with ASTM F136 and other specified requirements of contract number TG20201222a, and met these requirements.

Inspected by	Prepared by	Approved by
Michelle Zhang	Jimmy Liu	Jianyin Xu
Dec.15 ^h , 2020.	Dec.15 th , 2020.	Dec.15 th , 2020.

Quality Certificate

No.: QC20201222

1. Description:

Commodity	Material	Standard	Condition
Ti-6Al-4V ELI Bar	Ti-6Al-4V ELI	ASTM F136	Annealed
Heat No.	Lot No.	Size	Weight
1603006	17071701	Ø9.0x2000mm	2.80Kgs

2. Chemical Composition (Wt%):

Element	ті	Гі А1	V	Fe	С	N	О	Н	Oth	ners
Element	11							П	Each	Total
Requirements		5.5	3.5							
_	Bal	-	-	0.25	0.08	0.05	0.13	0.012	0.10	0.40
(Max.)		6.5	4.5							
	Bal	6.01	3.84	0.17	0.01	0.0088	0.095	0.001		
Results	Dai	0.01	3.04	0.17	0.01	0.0000	0.093	8		
Results	Dal	6.06	2 06	0.17	0.01	0.0093	0.092	0.001		
	Bal 6	0.06	6.06 3.96 0.1	0.17	17 0.01	0.0083	0.092	5		

3. Mechanical Properties:

Test Items	Tensile Strength Rm [Mpa]	Yield Strength Rp0.2 [Mpa]	Elongation A [%]	Area of Reduction Z [%]
Requirements	≥860	≥795	≥10	≥25
Results	954	852	16	42

4. Other Test Items:

Microstructure	Ultrasonic	Dimensional	Visual	Surface
	Test	Inspection	Inspection	Contamination
Qualified	Qualified	Qualified	Qualified	Clean

5. Conclusion and Statement:

We hereby certify that these Titanium Ti-6Al-4V ELI bars/rods herein has been manufactured,sampled,tested,and inspected in accordance with ASTM F136 and other specified requirements of contract number TG2000006a and TG2000008a, and met these requirements.

Inspected by	Prepared by	Approved by
Michelle Zhang	Jimmy Liu	Jianyin Xu
Mar.18 ^h , 2020.	Mar. 18 th , 2020.	Mar. 18 th , 2020.