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Number of documents: 8

EP-363598	Heat-resistant titanium-aluminium alloy with a high fracture toughness at room temperature and with good oxidation resistance and strength at high temperatures. NKK - NIPPON KOKAN
JP06002095	Manufacture of parts for automotive engine made of tial alloy AISAN INDUSTRY NKK - NIPPON KOKAN TOYOTA MOTOR
JP08104932	Tial-base alloy NKK - NIPPON KOKAN
JP05017836	Tial-base alloy excellent in hardness at high temperature as well as in strength at high temperature and its production NKK - NIPPON KOKAN
JP03226538	TiAl basic heat resistant alloy and its production method NKK - NIPPON KOKAN
JP06220560	Titanium aluminum based alloy material excellent in balance of strength and ductility and its production NKK - NIPPON KOKAN
JP05247612	Ti-al alloy material excellent in strength and wear resistance NKK - NIPPON KOKAN
JP02236233	Method for smelting tial alloy ingot NKK - NIPPON KOKAN

Heat-resistant titanium-aluminium alloy with a high fracture toughness at room temperature and with good oxidation resistance and strength at high temperatures.

EP-363598

<ul style="list-style-type: none"> • Patent Assignee NKK - NIPPON KOKAN • Inventor MITAO SHINJI TSUYAMA SEISHI MINAKAWA KUNINORI • International Patent Classification C22C-014/00 • US Patent Classification PCLO=420418000 PCLX=420580000 • CPC Code C22C-014/00 	<ul style="list-style-type: none"> • Publication Information EP0363598 A1 1990-04-18 [EP-363598] <div style="text-align: right; margin-top: 5px;">  </div> <ul style="list-style-type: none"> • Priority Details 1988JP-0203455 1988-08-16 1989JP-0207018 1989-08-11 																																
<ul style="list-style-type: none"> • Fampat family <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">EP0363598</td> <td style="width: 15%;">A1</td> <td style="width: 15%;">1990-04-18</td> <td style="width: 40%;">[EP-363598]</td> </tr> <tr> <td>JPH02138430</td> <td>A</td> <td>1990-05-28</td> <td>[JP02138430]</td> </tr> <tr> <td>US4983357</td> <td>A</td> <td>1991-01-08</td> <td>[US4983357]</td> </tr> <tr> <td>EP0363598</td> <td>B1</td> <td>1993-11-03</td> <td>[EP-363598]</td> </tr> <tr> <td>DE68910462</td> <td>D1</td> <td>1993-12-09</td> <td>[DE68910462]</td> </tr> <tr> <td>DE68910462</td> <td>T2</td> <td>1994-04-14</td> <td>[DE68910462]</td> </tr> <tr> <td>JPH0674469</td> <td>B2</td> <td>1994-09-21</td> <td>[JP94074469]</td> </tr> <tr> <td>JP1944072</td> <td>C</td> <td>1995-06-23</td> <td>[JP1944072]</td> </tr> </table>		EP0363598	A1	1990-04-18	[EP-363598]	JPH02138430	A	1990-05-28	[JP02138430]	US4983357	A	1991-01-08	[US4983357]	EP0363598	B1	1993-11-03	[EP-363598]	DE68910462	D1	1993-12-09	[DE68910462]	DE68910462	T2	1994-04-14	[DE68910462]	JPH0674469	B2	1994-09-21	[JP94074469]	JP1944072	C	1995-06-23	[JP1944072]
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JPH02138430	A	1990-05-28	[JP02138430]																														
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JP1944072	C	1995-06-23	[JP1944072]																														

- **Abstract:**

(EP-363598)

A heat-resistant TiAl alloy excellent in a room-temperature fracture toughness, a high- temperature oxidation resistance and a high- temperature strength, consisting essentially of: aluminum : from 29 to 35 wt.%, niobium : from 0.5 to 20 wt.%, at least one element selected from the group consisting of: silicon : from 0.1 to 1.8 wt.%, and zirconium : from 0.3 to 5.5 wt.%, and the balance being titanium and incidental impurities.

Claims

(EP-363598)

1. A TiAl heat-resistant alloy excellent in a a room-temperature fracture toughness, a high-temperature oxidation resistance and a high-temperature strength, characterized by consisting essentially of:

aluminum : from 29 to 35 wt.%,

niobium : from 0.5 to 20 wt.%,

at least one element selected from the group consisting of:

silicon : from 0.1 to 1.8 wt.%,

and

zirconium : from 0.3 to 5.5 wt.%,

and

the balance being titanium and incidental impurities.

2. The TiAl heat-resistant alloy as claimed in Claim 1 wherein;

the respective contents of oxygen, nitrogen and hydrogen as said incidental impurities are limited to:


up to 0.6 wt.% for oxygen,

up to 0.1 wt.% for nitrogen,

and

up to 0.05 wt.% for hydrogen.

Manufacture of parts for automotive engine made of tial alloy JP06002095

<ul style="list-style-type: none"> • <u>Patent Assignee</u> AISAN INDUSTRY NKK - NIPPON KOKAN TOYOTA MOTOR • <u>Inventor</u> TAKAGI SHINICHI OUCHI CHIAKI HOSHIDA TATSUO MORIKAWA TAKASHI SHAMOTO HIROYUKI SUGANUMA TETSUYA SAKURAI KOJI • <u>International Patent Classification</u> B22D-021/00 B22D-029/00 C22C-014/00 C22F-001/00 C22F-001/18 F01D-005/28 F01D-025/24 F01L-003/02 	<ul style="list-style-type: none"> • <u>Publication Information</u> JPH062095 A 1994-01-11 [JP06002095] <li style="text-align: right;"> • <u>Priority Details</u> 1992JP-0187511 1992-06-22 				
<ul style="list-style-type: none"> • <u>Fampat family</u> <table style="width: 100%; border: none; margin: 0;"> <tr> <td style="width: 30%;">JPH062095</td> <td style="width: 10%; text-align: center;">A</td> <td style="width: 20%; text-align: center;">1994-01-11</td> <td style="width: 30%; text-align: right;">[JP06002095]</td> </tr> </table> 		JPH062095	A	1994-01-11	[JP06002095]
JPH062095	A	1994-01-11	[JP06002095]		

- **Abstract:**

(JP06002095)

PURPOSE: To manufacture the objective lightweight parts for an automotive engine excellent in cold strength by casting a TiAl alloy having a specified compsn. into automotive parts by a precision casting method and thereafter executing hot hydrostatic pressing treatment. CONSTITUTION: The molten metal of a TiAl alloy having a compsn. constituted of, by weight, 32 to 36% Al and 0.01 to 0.1% N, and the balance Ti is used as a raw material and is cast into parts for an automotive engine by a precision casting method. This cast is subjected to hot hydrostatic pressing treatment at 1000 to 1200 deg.C under 1000 to 3000 atmospheric pressure, by which the objective lightweight parts for an automotive engine in which casting defects caused by shrinkage are not present at the inside and excellent in cold strength can be manufactured at high product yield. COPYRIGHT: (C)1994,JPO&Japio

Claims

(JP06002095)

1. Al: 32-36wt.% and
N: 0.01-0.1wt.%, and

remainder: The TiAl basic alloy which

consists of Ti and the inevitable impurity, with precise casting process automobile [en]

It cast in the part for the gin, it cast next, in this way

It features that HIP processing is administered to the aforementioned part, the TiAl basis go

Production method of part for gold made automobile engine.

2. As for the aforementioned HIP processing condition,

temperature: 1000-1200.deg.C, and

pressure: It features

that it is 1000-3000 atmospheric pressure, the TiAl basic alloy of claim 1 statement

Make production method of part for automobile engine.

TiAl-base alloy JP08104932

<ul style="list-style-type: none"> • <u>Patent Assignee</u> NKK - NIPPON KOKAN • <u>Inventor</u> TAKAGI SHINICHI KATO AKIRA • <u>International Patent Classification</u> C22C-014/00 	<ul style="list-style-type: none"> • <u>Publication Information</u> JPH08104932 A 1996-04-23 [JP08104932] • <u>Priority Details</u> 1994JP-0240166 1994-10-04
<ul style="list-style-type: none"> • <u>Fampat family</u> JPH08104932 A 1996-04-23 [JP08104932] 	

- **Abstract:**
(JP08104932)
PURPOSE: To improve the material characteristics of a TiAl-base alloy in a precision casting process or other process in which the control of a structure by thermo-mechanical treatment is not applicable. CONSTITUTION: This TiAl-base alloy has α - and γ -phases as constituent phases, ≤ 200 wt.ppm oxygen content and 35-70% vol. factor of a lamellar structure consisting of α - and γ -phases. By the reduced amt. of oxygen and the regulated microstructure, a TiAl-base alloy product excellent in balance of three characteristics, that is, strength, ductility and toughness can be obtd. without carrying out thermo-mechanical treatment.


Claims

(JP08104932)

1. As a constitution phase of the alloy I phase and I phase the possession
It does at the time of TiAl basic alloying which, oxygen content 200 weight
Below ppm, I phase the lame Ra organization which consists of I phase
It features that cubic measure ratio is 70% or less of 35% or more
TiAl basic alloy.

TiAl-base alloy excellent in hardness at high temperature as well as in strength at high temperature and its production

JP05017836

<ul style="list-style-type: none"> • <u>Patent Assignee</u> NKK - NIPPON KOKAN • <u>Inventor</u> TAKAGI SHINICHI OUCHI CHIAKI • <u>International Patent Classification</u> C22C-001/02 C22C-014/00 	<ul style="list-style-type: none"> • <u>Publication Information</u> JPH0517836 A 1993-01-26 [JP05017836] • <u>Priority Details</u> 1991JP-0198797 1991-07-12 
<ul style="list-style-type: none"> • <u>Fampat family</u> JPH0517836 A 1993-01-26 [JP05017836] 	

- Abstract:
(JP05017836)
PURPOSE: To provide a TiAl-base alloy having superior strength at high temp. and hardness at high temp. by constituting a TiAl-base alloy of respectively specified weight percentages of Al and N and the balance Ti. CONSTITUTION: The TiAl-base alloy has a composition consisting of, by weight, 33-36% Al, 0.01-0.10% N, and the balance Ti with inevitable impurities, or, a material consisting of 33-36% Al and the balance Ti with inevitable impurities is used and a nitride of <+1600 deg.C melting point is added to this material, followed by refining. By this method, the TiAl-base alloy excellent in hardness at high temp. as well as in strength at high temp. can be produced. COPYRIGHT: (C)1993,JPO&Japio

Claims

(JP05017836)

1. Al: From 33 36wt.% and

N: 0.01 Empty 0.10wt.%, and

remainder: It features that it consists of

Ti and the inevitable impurity, in strength at elevated temperature and hot hardness

The TiAl basic alloy which is superior.

2. Al: From 33 36wt.%, and

remainder: Consists of Ti and





the inevitable impurity to use the material which, fusion point 1,600 .deg.C the nitride below

It adds to the aforementioned material, and, make it features that it does

The [ru], strength at elevated temperature and production of the TiAl basic alloy which is superior in hot hardness

Method.

TiAl basic heat resistant alloy and its production method JP03226538

<ul style="list-style-type: none"> • Patent Assignee NKK - NIPPON KOKAN • Inventor MITAO SHINJI TSUYAMA AOSHI MINAGAWA KUNINORI • International Patent Classification C22C-001/02 C22C-014/00 C22F-001/00 C22F-001/18 	<ul style="list-style-type: none"> • Publication Information JPH03226538 A 1991-10-07 [JP03226538]     • Priority Details 1990JP-0017960 1990-01-30 								
<ul style="list-style-type: none"> • Fampat family <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">JPH03226538</td> <td style="width: 15%;">A</td> <td style="width: 20%;">1991-10-07</td> <td style="width: 35%;">[JP03226538]</td> </tr> <tr> <td>JP2952924</td> <td>B2</td> <td>1999-09-27</td> <td>[JP2952924]</td> </tr> </table> 		JPH03226538	A	1991-10-07	[JP03226538]	JP2952924	B2	1999-09-27	[JP2952924]
JPH03226538	A	1991-10-07	[JP03226538]						
JP2952924	B2	1999-09-27	[JP2952924]						

- **Abstract:**

(JP2952924)

PURPOSE: To manufacture a Ti-Al, base heat resistant alloy excellent in cold fracture toughness, high temp. oxidation resistance and high temp. strength by preparing an alloy obtd. by incorporating specified ratios of Al, Nb, Si, Cr, etc., into Ti and regulating the content of O, N and H. CONSTITUTION: A Ti-Al base heat resistant alloy contg., by weight, 28 to 38% Al and 0.5 to 20% Nb, contg. one or more kinds among 0.25 to 3.5% Si, 0.3 to 5.5% Zr and 0.1 to 6.0% Sn and furthermore contg. one or more kinds among $\geq 0.1\%$ Cr, $\geq 0.1\%$ Mn, $\geq 0.1\%$ Fe, $\geq 0.1\%$ Co, $\geq 0.1\%$ Ni and $\geq 0.1\%$ Cu under the condition where the value expressed by $(\%Cr)/14.7+(\%Mn)/12.3+(\%Fe)/12.5+(\%Co)/13.2+(\%Ni)/13.2+(\%Cu)/14.1$ satisfies <1 as well as in which $<+0.9\%$ O, $<+0.5\%$ N and $<+0.05\%$ H are regulated and the balance Ti with impurities inevitable in refining is prepd. COPYRIGHT: (C)1991,JPO&Japio

Claims

(JP2952924)

Claims machine translated from Japanese

1. Weight % With,

A<GAI ID=2038>: 28% or more and 38% or less

Nb: 0.5% or more and 20% or less

And,

Si: 0.25% or more. 3.5% or less

Zr: 0.3% or more and 5.5% or less

Sn: 0.1% or more and 6.0% or less

Implication above kind inside,

Cr: 0.1% or more, Mn: 0.1% or more, Fe: 0.1% or more, Co: 0.1%

Above, Ni: 0.1% or more, Cu: 0.1% or more

Above kind inside,

(%Cr) /14.7+ (%Mn) /12.3+ (%Fe) /12.5+ (%C

o) /13.2+ (%Ni) /13.2+ (%Cu) the value which is displayed with /14.1

To include under the conditions for satisfying under 1, at the same time

O 0.9% or less, N 0.5% or less, H is designated as 0.05% or less,

The remainder consisting of with Ti and make the inevitable impurity above special

The TiA<GAI ID=2038> basic heat resistant alloy which is made collection/symbol.

2. Weight % With,

A<GAI ID=2038>: 28% or more and 38% or less

Nb: 0.5% or more and 20% or less

And,

Si: 0.25% or more and 3.5% or less

Zr: 0.3% or more and 5.5% or less

Sn: 0.1% or more and 6.0% or less

Implication above kind inside,

V: 0.1% or more, Mo: 0.1% or more,

Hf: 0.1% or more, W: 0.1% or more

Ta: 0.1% or more

Above kind inside,

(%V) /11.6+ (%Mo) /11.0+ (%Hf) /8.4+ (%)

W) /6.9+ (%Ta) the value which is displayed with /7.2 satisfies under 1

-ru condition with include, at the same time

O 0.9% or less, N 0.5% or less, H is designated as 0.05% or less,

The remainder consisting of with Ti and make the inevitable impurity above special

The TiA<GAI ID=2038> basic heat resistant alloy which is made collection/symbol.

3. Weight % With,

A<GAI ID=2038>: 28% or more and 38% or less

Nb: 0.5% or more and 20% or less

And,

Si: 0.25% or more and 3.5% or less

Zr: 0.3% or more and 5.5% or less

Sn: 0.1% or more and 6.0% or less

Implication above kind inside,

Cr: 0.1% or more, Mn: 0.1% or more,

Fe: 0.1% or more, Co: 0.1% or more

Ni: 0.1% or more, Cu: 0.1% or more

Above kind inside,

(%Cr) /14.7+ (%Mn) /12.3+ (%Fe) /12.5+ (%C

o) /13.2+ (%Ni) /13.2+ (%Cu) the value which is displayed with /14.1

Under the conditions for satisfying under 1, and

V: 0.1% or more, Mo: 0.1% or more,

Hf: 0.1% or more, W: 0.1% or more

Ta: 0.1% or more

Above kind inside,

(%V) /11.6+ (%Mo) /11.0+ (%Hf) /8.4+ (%)

W) /6.9+ (%Ta) the value which is displayed with /7.2 satisfies under 1

-ru condition with husband include, at the same time

O 0.9% or less, N 0.5% or less, H is designated as 0.05% or less,

The remainder consisting of with Ti and make the inevitable impurity above special

The TiA<GAI ID=2038> basic heat resistant alloy which is made collection/symbol.

4. Weight % With,

A<GAI ID=2038>: 28% or more and 38% or less

Nb: 0.5% or more and 20% or less

And,

Si: 0.25% or more and 3.5% or less

Zr: 0.3% or more and 5.5% or less

Sn: 0.1% or more and 6.0% or less

Above kind inside, and

B: 0.01% or more and 0.5% or less

C: 0.01% or more and 0.5% or less

Implication above kind inside,

Cr: 0.1% or more, Mn: 0.1% or more,

Fe: 0.1% or more, Co: 0.1% or more,

Ni: 0.1% or more, Cu: 0.1% or more

Above kind inside,

(%Cr) /14.7+ (%Mn) /12.3+ (%Fe) /12.5+ (%C

o) /13.2+ (%Ni) /13.2+ (%Cu) the value which is displayed with /14.1

To include under the conditions for satisfying under 1, at the same time

O 0.9% or less, N 0.5% or less, H is designated as 0.05% or less,

The remainder consisting of with Ti and make the inevitable impurity above special

The TiA<GAI ID=2038> basic heat resistant alloy which is made collection/symbol.

5. Weight % With,

A<GAI ID=2038>: 28% or more and 38% or less

Nb: 0.5% or more and 20% or less

And,

Si: 0.25% or more and 3.5% or less

Zr: 0.3% or more and 5.5% or less

Sn: 0.1% or more and 6.0% or less

Above kind inside, and

B: 0.01% or more and 0.5% or less

C: 0.01% or more and 0.5% or less

Implication above kind inside,

V: 0.1% or more, Mo: 0.1% or more,

Hf: 0.1% or more, W: 0.1% or more,

Ta: 0.1% or more

Above kind inside,

(%V) /11.6+ (%Mo) /11.0+ (%Hf) /8.4+ (%)

W) /6.9+ (%Ta) the value which is displayed with /7.2 satisfies under 1

-ru condition with include, at the same time

O 0.9% or less, N 0.5% or less, H is designated as 0.05% or less,

The remainder consisting of with Ti and make the inevitable impurity above special

The TiA<GAI ID=2038> basic heat resistant alloy which is made collection/symbol.

6. Weight % With,

A<GAI ID=2038>: 28% or more and 38% or less

Nb: 0.5% or more and 20% or less

And,

Si: 0.25% or more and 3.5% or less

Zr: 0.3% or more and 5.5% or less

Sn: 0.1% or more and 6.0% or less

Above kind inside, and

B: 0.01% or more and 0.5% or less

C: 0.01% or more and 0.5% or less

Implication above kind inside,

Cr: 0.1% or more, Mn: 0.1% or more,

Fe: 0.1% or more, Co: 0.1% or more,

Ni: 0.1% or more, Cu: 0.1% or more

(%Cr) /14.7+ (%Mn) /12.3+ (%Fe) /12.5+ (%C

o) /13.2+ (%Ni) /13.2+ (%Cu) the value which is displayed with /14.1

Under the conditions for satisfying under 1, and

V: 0.1% or more, Mo: 0.1% or more,

Hf: 0.1% or more, W: 0.1% or more

Ta: 0.1% or more

Above kind inside,

(%V) /11.6+ (%Mo) /11.0+ (%Hf) /8.4+ (%)

W) /6.9+ (%Ta) the value which is displayed with /7.2 satisfies under 1

-ru condition with include, at the same time

O 0.9% or less, N 0.5% or less, H is designated as 0.05% or less,

The remainder consisting of with Ti and make the inevitable impurity above special

The TiA<GAI ID=2038> basic heat resistant alloy which is made collection/symbol.

7. Claim 1 or 6 in each case alloy of 1 section statements

It melts casts, it features that it makes the use material with while it is casting

Production method of ru TiA<GAI ID=2038> basic heat resistant alloy.

8. Claim 1 or 6 in each case alloy of 1 section statements

To melt cast, after that, the heat treatment of 1 times or 2 times or more

Production method of the TiA<GAI ID=2038> basic heat resistant alloy which features that it administers.

9. Claim 1 or 6 in each case alloy of 1 section statements

Melting casting, after that hot gravitational pressure it presses processing special

Production method of the TiA<GAI ID=2038> basic heat resistant alloy which is made collection/symbol.

10. Claim 1 or 6 in each case alloy of 1 section statements





To melt cast, the heat treatment of 1 times or 2 times or more and high

Compounding warm gravitational pressure press processing, Ti which features that it does

Production method of A<GAI ID=2038> basic heat resistant alloy.

Titanium aluminum based alloy material excellent in balance of strength and ductility and its production

JP06220560

<ul style="list-style-type: none"> • Patent Assignee NKK - NIPPON KOKAN • Inventor TAKAGI SHINICHI OUCHI CHIAKI • International Patent Classification B21J-005/00 B30B-005/02 C22C-014/00 C22F-001/00 C22F-001/18 	<ul style="list-style-type: none"> • Publication Information JPH06220560 A 1994-08-09 [JP06220560]     • Priority Details 1992JP-0280217 1992-10-19 1993JP-0283900 1993-10-19
<ul style="list-style-type: none"> • Fampat family JPH06220560 A 1994-08-09 [JP06220560] 	

- **Abstract:**

(JP06220560)

PURPOSE: To produce a TiAl based alloy material having excellent hardness without sacrificing cold ductility, and moreover, excellent in balance of strength to ductility without showing deterioration in hardness even at high temp., and to provide a method for producing inexpensively the alloy having such characteristics. CONSTITUTION: A TiAl based alloy is casted to form an intermediate base stock and then a hot isotropic pressing treatment is conducted to the intermediate base stock in a temp. range of 800-1400 deg.C and a pressure range not less than 1000atm. In this way, a TiAl based alloy material contg. 45-50% Al, 0.5-3.0% Zr in atomic percentage and the balance Ti with inevitable impurities is obtained.
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Claims

(JP06220560)

1. With atomic percentage

Al: 45-50%

Zr:

It contains the 0.5-3.0%, consists of remainder Ti and the inevitable impurity

The TiAl basis which is superior in the strength ductile balance which is featured go

Gold material.

2. With atomic percentage, Al: 45-50% and Z

r: To contain the 0.5-3.0%, remainder Ti and inevitability

Casting the TiAl basic alloy which consists of the mark impurity, the intermediate material





To produce, next, vis-a-vis this intermediate material, the temperature 800-1

Under condition of range above 400.deg.C and pressure 1000 atmosphere heat

Strength ductile [ba] which features that isotropic pressure press processing is administered

Production method of the TiAl basic alloy material which is superior in the lance.

Ti-al alloy material excellent in strength and wear resistance JP05247612

<ul style="list-style-type: none"> • Patent Assignee NKK - NIPPON KOKAN • Inventor TAKAGI SHINICHI OUCHI CHIAKI FUJITA TAKAHIRO • International Patent Classification C22F-001/00 C22F-001/18 	<ul style="list-style-type: none"> • Publication Information JPH05247612 A 1993-09-24 [JP05247612] <li style="text-align: right;">    • Priority Details 1992JP-0082741 1992-03-04
<ul style="list-style-type: none"> • Fampat family JPH05247612 A 1993-09-24 [JP05247612] 	

- **Abstract:**
(JP05247612)
PURPOSE:To provide the objective alloy material excellent in strength and wear resistance particularly in a low temp. range and furthermore free from the generation of the deterioration in ductility. CONSTITUTION:The surface roughness (Rz) of the objective Ti-Al alloy material is regulated to <=5.0m, and, a hardened layer having >=600 micro Vickers hardness (load:5g) is formed on the surface layer part at a thickness of 20 to 200mum from the surface. In this way, the strength and wear resistance of the Ti-Al alloy material can be improved without deteriorating its ductility.

Claims

(JP05247612)

Claims machine translated from Japanese

1. The surface roughness (Rz) with 5.0 .micro.m or less [a]


From [ri], and that surface, 20 .micro.m or more and 200 .micro.m or less

In surface part of thickness, micro diamond pyramid hardness (load: 5

g) It features that hardening layer of 600 or more is formed

The TiAl basic alloy material which is superior in the [ru], strength and resistance abrasiveness.

Method for smelting tial alloy ingot JP02236233

<ul style="list-style-type: none">• Patent Assignee NKK - NIPPON KOKAN• Inventor KATO AKIRA SAKATA NAOKI• International Patent Classification C22B-009/20 C22C-001/02 C22C-014/00	<ul style="list-style-type: none">• Publication Information JPH02236233 A 1990-09-19 [JP02236233] • Priority Details 1989JP-0055886 1989-03-08				
<ul style="list-style-type: none">• Fampat family <table border="0"><tr><td>JPH02236233</td><td>A</td><td>1990-09-19</td><td>[JP02236233]</td></tr></table>		JPH02236233	A	1990-09-19	[JP02236233]
JPH02236233	A	1990-09-19	[JP02236233]		

- **Abstract:**

(JP02236233)

PURPOSE: To easily smelt the defectless TiAl alloy ingot which contains less impurities and is free from crack, etc., by subjecting a TiAl alloy stock to vacuum melting in a carbon sleeve inserted into a water-cooled metallic mold.

CONSTITUTION: The alloy stock obtd. by mixing and pressing Ti and Al at a prescribed ratio in a vacuum arc remelting furnace 1 is mounted as an electrode 11 to the front end of a stinger rod 2 and is hung in the water-cooled copper mold 7 having a water cooling jacket 5. A bottom plate 9 is laid in the bottom of the copper mold 7 and the cylindrical carbon sleeve 8 larger than the outside diameter of the electrode 11 is disposed thereon. A DC arc 13 is generated between an initial ignition material (not shown) imposed on the bottom plate 9 and the electrode 11 in this state to melt the front end of the electrode 11. The molten electrode is dropped as liquid drops 5 to form a molten pool 12. A DC arc 13 is thereafter generated between the electrode 11 and the molten pool 12 and the molten pool 12 is cooled via the carbon sleeve 8, by which the TiAl alloy ingot 14 is formed. COPYRIGHT: (C)1990,JPO&Japio

Claims

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