



AEROSPACE & DEFENSE



KPC Metal Co., Ltd.
The Integrated Solution

KPC METAL CO. LTD. (KPCM) is

Korea's leading company in production and supply of titanium- and nickel-alloys and other super alloys for critical engineering. Founded in 1977, we have 40 years of experience supplying the alloys for industries that are required to perform in challenging environments.

We offer an integrated solution to our customers by producing these materials in our in-house facilities including VIM, ESR, VAR, extrusion press, rolling mill, forging press and radial forging machines. This enables us to meet the specific requirements of our customers in the aerospace and defense industries.

Currently we supply components for space launch vehicle, missile and submarine and tooling and press die material for commercial aircraft.

To satisfy our valued customers in always changing global business environment, we make constant efforts for quality assurance and development of advanced materials.

COMPANY HISTORY

- 1977. 10.** Established Korea Precision Casting Co.
- 1982. 03.** Started Ball Valve Division
- 1987. 09.** Started Special Alloy Casting & Forging
- 1988. 06.** Started Vacuum Arc Re-melting Division
- 1997. 12.** Started Titanium Casting & Forging
- 1998. 08.** Reactive Metal Research Institute Registered
- 2004. 03.** Operated Wachon 1st Factory (Vacuum Melting, Open Die Forging)
- 2006. 11.** Operated Deokchon Factory (Machining, Welding)
- 2007. 05.** Operated Sowol 1st & 2nd Factory (Rolling Mill, Extrusion, Radial Forging, Centrifugal Casting)
- 2010. 12.** KPC Metal Co., Ltd. Spun off from KPC Corporation
- 2015. 08.** AS9100 : Certified by DNV-GL
- 2015. 10.** Awarded the Gold Tower Order of Industrial Service Merit from the Korean Government
- 2017. 02.** Operated Sangam Factory (Aerospace & Defense Casting, Forging)
- 2019. 08.** NADCAP (Heat Treatment) Certified by PRI

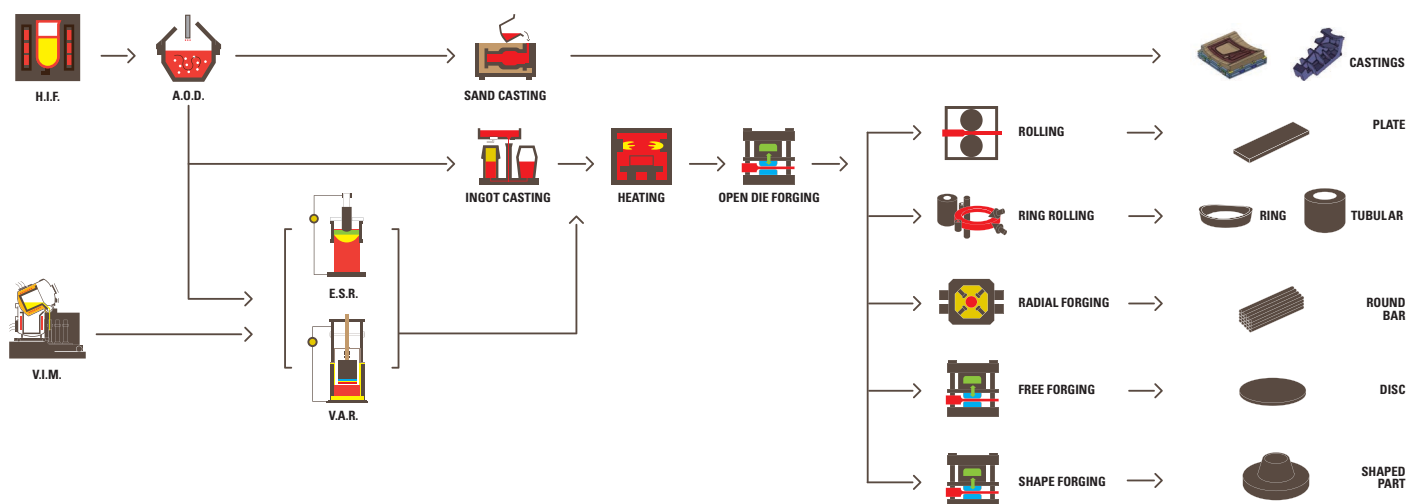
Our strength and competitiveness come from a vertically integrated production process, allowing us cost-saving, better quality control and responsive delivery time for our customers.



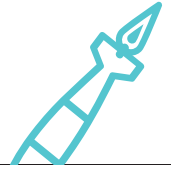
OUR MATERIAL LIST FOR AEROSPACE & DEFENSE SECTORS

Material	Chemical Composition	Mechanical Properties	Material	Chemical Composition	Mechanical Properties
Ti 6Al-4V	Al_6%, V_4%, Fe_(Max.0.25%), O_(Max.0.2%), Ti_(balance)	Tensile Strength, 895 MPa Yield Strength, 828 MPa	Al 6061	Zn_0.25%, Mg_1.2%, Si_0.8%, Al_(balance)	Tensile Strength, 225 MPa Yield Strength, 234 MPa
Ti 6Al-4V (Extra Low Interstitial)	Al_6.5%, V_4.5%, Fe_(Max.0.25%), O_(Max.0.13%), Ti_(balance)	Tensile Strength, 827 MPa Yield Strength, 758 MPa	Al 2219	Cu_6.8%, Mg_0.4%, Al_(balance)	Tensile Strength, 372 MPa Yield Strength, 248 MPa
Inconel 625	Ni_65.5%, Cr_22%, Mo_9%, Nb_3.5%	Tensile Strength, 830 MPa Yield Strength, 415 MPa	Maraging C-250	Ni_18%, Co_8%, Mo_5%, Ti_0.4%, Al_0.1%	Tensile Strength, 1760 MPa Yield Strength, 1725 MPa
Inconel 718	Ni_53%, Cr_19%, Fe_18%, Mo_3%, Nb_5%, Ti_1%	Tensile Strength, 1275 MPa Yield Strength, 1034 MPa	Maraging C-300	Ni_19%, Co_9.5%, Mo_5.2%, Ti_0.8%, Al_0.15%, Fe_(balance)	Tensile Strength, 1930 MPa Yield Strength, 1862 MPa
Invar 36	Ni_36%, Fe_(balance)	Tensile Strength, 462 MPa Yield Strength, 261 MPa	Maraging T-250	Ni_19%, Mo_3%, Ti_1.4%, Al_0.1%	Tensile Strength, 1760 MPa Yield Strength, 1726 MPa
Super Invar (K93500)	Ni_32%, Co_5%, Fe_(balance)	Tensile Strength, 586 MPa Yield Strength, 593 MPa	15-5PH	Cr_15%, Ni_5%, Cu_4%, Fe_(balance)	Tensile Strength, 1070 MPa(H1025) Yield Strength, 1000 MPa(H1025)
Al 7175	Zn_5.6%, Mg_2.5%, Cu_1.6%, Cr_0.23%, Al_(balance)	Tensile Strength, 503 MPa(T74) Yield Strength, 434 MPa(T74)	17-4PH (SUS630)	Cr_16%, Ni_4.5%, Cu_3.5%, Fe_(balance)	Tensile Strength, 1069 MPa(H1025) Yield Strength, 1000 MPa(H1025)
Al 7075	Zn_5.6%, Mg_2.5%, Cu_1.6%, Cr_0.23%, Al_(balance)	Tensile Strength, 490 MPa Yield Strength, 407 MPa	D6AC	Mo_1%, Mn_0.7%, Ni_0.5%, C_0.45%, V_0.1%, Fe_(balance)	Tensile Strength, 1590 MPa Yield Strength, 1310 MPa

OUR MANUFACTURING PROCESS



Missile



SHAPE FORGING

Material

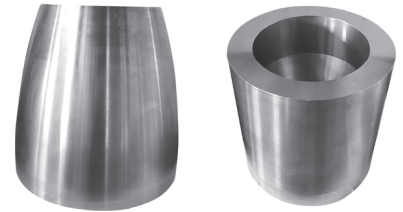
» Ti-6Al-4V

Specification

» AMS 4928

Usage

» Missile Body, Cover & Warhead



Material

» Maraging C250 & T250

Specification

» AMS 6512 & AMS 6519

Usage

» Missile Warhead



Material

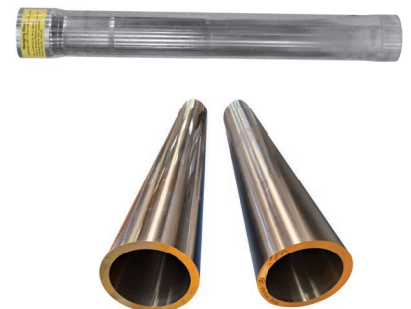
» Maraging Steel C250 & T250

Specification

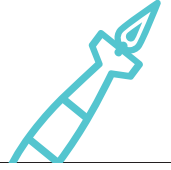
» AMS 6512, AMS 6519 & MIL-S-47319

Usage

» Missile Case & Body



Missile



Material » D6AC
Specification » AMS 6431
Usage » Front Cover, Rear Cover & Case



Material » Ti-6Al-4V, Al7075 & Al7175
Specification » AMS 4928, AMS 4323 & AMS 4126
Usage » Missile Cone



Material » Ti-6Al-4V
Specification » AMS 4911 & AMS 4928
Usage » Fin



Space Launch Vehicle



SHAPE FORGING

Material » Ti-6Al-4V
Specification » AMS 4928
Usage » Liquid Fuel Burner & Liner



Material » Duplex, Inconel 718 & 625
Specification » AMS 5662/5663/5666 & ASTM A276
Usage » Turbo Pump



Material » F316L & Duplex
Specification » ASTM A182 & JIS G4303 SUS329J1
Usage » Liquid Fuel Burner

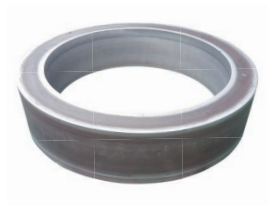


Material » Al7075, Al7050 & A7175
Specification » AMS 4323, AMS 4333 & AMS 4131
Usage » Carrier JIG & Forging Adapter



FORGED RING

Material » Al7175, Al7050 & Al7075
Specification » AMS 4131, AMS 4149 & AMS 4311
Usage » Skirty & Cylinder

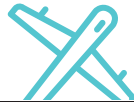


FORGED BAR

Material » Ti-6Al-4V
Specification » AMS 4928
Usage » Combustion Tube Nozzle

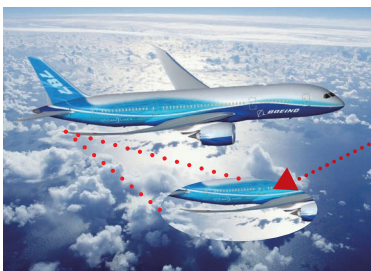


Commercial Aircraft



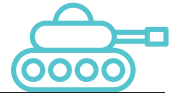
CASTING

- Material** » Invar 36
- Specification** » Boeing D33028-2
- Usage** » Lay-up Mandrel for Raked Wing Composite Part



Lay-Up Mandrel for Raked Wing Composite Part

Military Vehicle



FORGING

- Material** » Ti-6Al-4V-M(KMT64 ®) & Ti-6Al-4V
- » Maraging C-250 & C-300
- Specification** » MIL-DTL-460077G
- » MIL-DTL-32332
- » MIL-DTL-46100E
- Usage** » Armor Plates

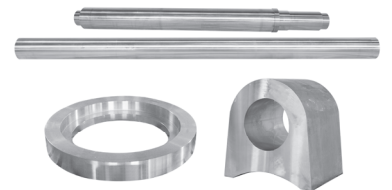


Submarine



FORGING

- Material** » 1.4313 (F6NM)
- Specification** » UNS S41500
- Usage** » Shaft, Setting Ring & Bearing



- Material** » 1.4462 (F51)
- Specification** » UNS S31803
- Usage** » Shaft, Radar, ESM Mast FDN, Bearing, Blank, etc.



CLIENTS



CERTIFICATIONS

ISO 9001 ISO 13485
AS 9100 ISO 17025
PED NADCAP
OSHAS 18001

LOCATIONS



Wachon Factory

Vacuum melting
Casting
Open die forging



Deokchon Factory

Machining
Overlay welding



Sowol Factory

Radial forging
Rolling
Extrusion



Sangam Factory

Ring Rolling
Open die forging
Casting



KPC Metal

Main office & factory

Address. » 249 Wacheonseo-gil, Wachon-myeon Gyeongsan-si,
Gyeongsangbuk-do, 38412, South Korea

Tel. » 82-53-852-4839 / 82-53-962-4839

Fax. » 82-53-853-6386

E-mail » kpcm@kpccorp.co.kr

URL » www.kpctitanium.com / www.kpcmetal.co.kr

Seoul office

Address. » Korean Re Bldg 3F #301, 68 Jong-ro 5-gil, Jongno-gu,
Seoul, 03151, South Korea

Tel. » 82-2-6261-4265

Fax. » 82-2-2637-9118