

SINCE 1983



**JUNGSAN**  
JUNGSAN ENTERPRISE Co.,Ltd.  
(주) 중산기업



SPECIAL BOLT & NUT FITTINGS



# APPLICATION FIELD

ON/OFF SHORE & SHIPBUILDING PLANTS

GAS/OIL & STEAM TURBINE PLANTS

REFINERY & PETROCHEMICAL PLANTS

POWER (NUCLEAR, WATER, WIND) PLANTS

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CYLINDER COVER STUD

CONNECTING ROD STUD

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LOCK NUT SPRING INSERT Type

BOLT CAP (THERMOPLASTIC RUBBER, ALUMINIUM)

### SPECIFICATION OF PRODUCTS

# The power to connect the world.

**FASTENERS (BOLTS, STUD BOLTS, NUTS & WASHER)** is a history of industry.

We can supply you with special materials that meet your demanding requirements even in extreme environments.

JUNGSAN, which specializes in manufacturing bolts for energy plants and engine turbines, places the highest priority on the relationship between you and your companions.



# HISTORY

- Jul. 2017**  
 DNV GL rules for classification – Ships  
 DNV GL-CP-0351 – Manufacture of heat treated products –  
 Heat treatment workshop
- Mar, 2016**  
 Environment, quality, Safety systems Certificate  
 ( KR Society )
- Mar, 2016**  
 Qualified supplier registration Certificate  
 (Korea Southern Power, Korea East-West Power,  
 Korea Midland Power Korea Western Power,  
 Korea South-East Power )
- Dec, 2015**  
 Quality System Certificate (KEPIC:DN-662)
- Nov, 2014**  
 Single PPM 2 kind obtain additional authentication  
 (TIE ROD / HYD. NUT) Small and Medium Business  
 Administration (No. 1-16-2-2265)
- Jun, 2014**  
 Promising Company by Techno Park (ULSAN)
- Feb. 2014**  
 Production Management(PMS)LEVEL.4
- Jul. 2012**  
 Eamed A Certificate of Approval for ISO 9001 (MSA)  
 Eamed A Certificate of Approval for ISO 14001 (MSA)  
 Eamed A Certificate of approval for OHSAS 18000: (MSA)
- Apr, 2011**  
 Received Single PPM group President award
- Oct, 2010**  
 Received Single PPM quality certificate-2 items acquired  
 from Small and Medium Business Administration
- Mar, 2010**  
 Received the Busan Regional Tax Administration Award
- Feb, 2010**  
 Received Accident-Free 10-fold certificate.
- Oct, 2009**  
 Received the best partner award in the 3C division by  
 DOOSAN ENGINE Co., Ltd.
- Mar, 2009**  
 Completed the second plant

# CERTIFICATION



- **Apr, 2008**  
Acquired Certificate of INNO-BIZ
- **Apr, 2008**  
Win an award Single PPM group by The Prime
- **Nov, 2007**  
Acquired Single PPM by Small and Medium Business Admn
- **Feb, 2007**  
Win an award superior quality of ENGINE Co., Ltd.
- **May, 2006**  
Attested ISO 9001:2000 by ORI
- **Mar, 2000**  
Acquired certificate of ISO 9002 attested by EQA
- **Sep, 1999**  
Certified as a venture company(no. 99121421-189)
- **Dec, 1998**  
Joined membership of Korea shipbuilding materials Union Association

- **Sep, 1998**  
Registered as a membership partner of Hyundai heavy industries (No. UZ 077)
- **Sep, 1998**  
Registered as a membership partner of Samsung heavy industries (No. 2907151)
- **Sep, 1998**  
Registered as a membership partner of Volvo construction & machines Korea (No. 36018)
- **Aug, 1998**  
Registered as a trade business & membership of Korea trade Association
- **Apr, 1998**  
Registered as a membership partner of DOOSAN ENGINE Co., Ltd.(No.290715)
- **Mar, 1998**  
Incorporated company
- **Apr, 1983**  
Established company

## PARTNERSHIP CLIENTS



SIEMENS

IHI



POSCO



STX

DAELIM



HANJIN

HYOSUNG

# PRODUCT

## STUD BOLT & NUT

B7, B7M, L7, L7M  
B8, B8M, B8M CL, 2  
A453-660  
INCONEL 625, 718  
UNS S32750 / S32760  
MONEL K-400 / K-500



## STUD BOLT

B16, B4B  
INCONEL 718, INCONEL X-750  
A453-660, A193-B7, A193-B8M



## HEAVY HEX BOLT (HEXAGON BOLT) / HEX NUT

B7, B7M, B16, B5, L7, L7M, L43, 20CrMoVTIB4-10  
A36, A307, 4.6, SS400, S45C, A325, A490  
B8 CL1&2, B8M CL1&2, B8T, B8C, B6, SS317(L)  
A453-660, INCONEL 625, 718, INCONEL 925, C276  
UNS S32760 / S32750  
Grade 2 / 5 / 7  
C65100, C63000, C61400



## HEXAGON HEAD BOLT & NUT

B7, B16, A325, A440  
INCONEL 718  
A453-660



## U-BOLT/HEX NUT/INSULATION PAD

B7, B7M, B16, B5, L7, L7M, L43, 20CrMoVTIB4-10  
A36, A307, 4.6, SS400, S45C, A325, A490  
B8 CL1&2, B8M CL1&2, B8T, B8C, B6, SS317(L)  
A453-660, INCONEL 625, 718, Incoloy 925, C276  
UNS S32760 / S32750  
Grade 2 / 5 / 7  
C65100, C63000, C61400



**COUPLING BOLT**

JIS G4053  
(SCM435, SCM440, SNCM439)  
& CUSTOMER SPECIFICATION

**CYLINDER COVER STUD**

JIS G4053  
(SCM435, SCM440, SNCM439)  
& CUSTOMER SPECIFICATION



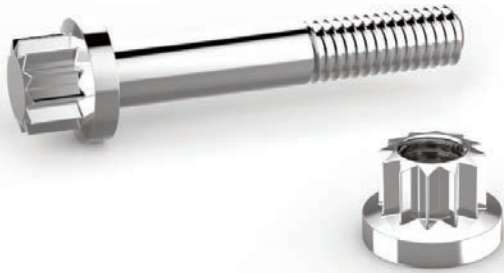
**CONNECTING ROD STUD**

JIS G4053  
(SCM435, SCM440, SNCM439)  
& CUSTOMER SPECIFICATION



**MAIN BEARING STUD**

JIS G4053  
(SCM435, SCM440, SNCM439)  
& CUSTOMER SPECIFICATION



### 12PT BOLT & NUT

B-16, A437-B4B  
INCONEL 718  
A453-660, B7, B8M

### HAEDER PLUG

A105, A350-LF2, A182-F304L  
316L, UNS S31803 / S32750 / S32760  
INCONEL 625, 718, 825



### ANCHOR BOLT SET (FOUNDATION BOLT)

- SLEEVE TYPE
- SLEEVELESS TYPE
- KS B 1016 ( TYPE L / LA / J / JA )

B7, B7M, B16, B5, L7, L7M, L43, B23, A449  
A36, A307, 4, A325, F1554 Gr.36 / Gr.55.SS400  
B8 CL1&2, B8M CL1&2

### HEXAGON SOCKET HEAD BOLT

B16, A437-B4B, 10.9, INCONEL 718,  
A453-660, A1983-B7, A193-B8M, INCONEL 625,  
MONEL K-400 / K-500, UNS S32750 / S32760





### WELD STUD & FERRULE

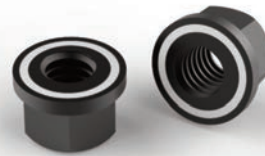
A108, SUS304L, B8  
A276-316Ti, A276-316L / CERAMIC



### LOCK BOLT & NUT MAGNET INSERT Type



JS-1 Lock Bolt



JS-1 Lock Nut

### LOCK NUT SPRING INSERT Type



JS-2 Lock Nut



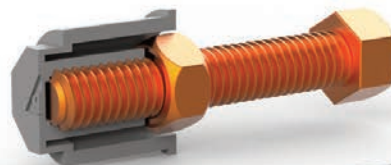
JS-3 Lock Stud Set FLNG Tanker Insulation Locking  
Size : M10, M12 Steel, STS



JS-4 Lock Cap All Steel

### BOLT CAP (THERMOPLASTIC RUBBER, ALUMINIUM)

- Thermoplastic Rubber Bolt Cap, Aluminium
- For Anti-Corrosion
- BOLT SIZE : 1" ~ 3.5"



# SPECIFICATION OF PRODUCTS

	DESCRIPTION	MATERIAL	DIMENSION	RANGE	
				Inch	Metric
B O L T	STUD BOLT	A193,A320,A437,A449,A453,ISO 898-1	A193,A307,A540,A564	1/4" ~ 6"	M6 ~ M160
	HEX BOLT	A193,A320,A437,A449,A453,ISO 898-1	ASME B18.2.1 / ANSI B18.2.3.5M	1/4" ~ 6"	M5 ~ M160
	HEAVY HEX BOLT	A193,A320,A437,A449,A453,ISO 898-1	ASME B18.2.1 / ANSI B18.2.3.6M	3/8" ~ 3"	M10 ~ M48
	SQUARE HEAD BOLT	A193,A307,S45C,S20C,SS400	ASME B18.2.1	1/4" ~ 1-1/2"	
	FITTED BOLT	JIS G 4053(SCM435,SCM440,S45C)	CUSTOMER SPECIFICATION		M24 ~ M60
	HEX SOCKET BOLT	A193,A320,A437,A449,A453,ISO 898-1	ASME B18.3/ANSI B18.3.1M	NO.0 ~ 4"	M6 ~ M48
	U-BOLT	A193,A325A,SS400	JIS F3022	3/8" ~ 32"	M12 ~ M30
	ANCHOR BOLT	A36,A307,A540,SF440,S45C,20C,SS400	JIS B1178	1/2" ~ 5"	M12 ~ M125
	T-HEAD BOLT	A36,SF440,S45C,S20C,SS400	DIN7992	1/2" ~ 4"	
	EYE BOLT	A489,S45C,S20C,SS400	ANSI B18.15	1/4" ~ 2-1/2"	M6 ~ M120
	FLANGE BOLT	A193,A320,A437,A449,A453,ISO 898-1	ASME B18.2.1/IF1536	1/4" ~ 3/4"	M6 ~ M30
	TENSION BOLT	JIS G 4053(SCM435,SCM440)	CUSTOMER SPECIFICATION		M10 ~ M30
	HOLD'G DOWN BOLT	JIS G4053(SCM435,SCM440)	CUSTOMER SPECIFICATION		M24 ~ M30
	END CHOCK BOLT	JIS G4053(SCM435,SCM440)	CUSTOMER SPECIFICATION		M40 ~ M80
	COUPLING BOLT	JIS G4053(SCM435,SCM440)	CUSTOMER SPECIFICATION		M50 ~ M180
PISTON CROWN BOLT	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M12 ~ M30	
S T U D	CYLINDER COVER STUD	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M48 ~ M120
	MAIN BEARING STUD	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M48 ~ M120
	CONNECTING ROD STUD	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M48 ~ M120
	FUEL VALVE STUD	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M20 ~ M48
	AXIAL VIBR DAMPER STUD	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M20 ~ M48
	STARTING AIR VALVE STUD	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M20 ~ M48
	REDUCED SHANK STUD	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M20 ~ M48
	PISTON ROD STUD	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M12 ~ M30
	TIE-ROD	JIS G4053(SCM435,SCM440,SNM439)	CUSTOMER SPECIFICATION		M24 ~ M80
N U T	HEX NUT	A194,A453,A563,ISO 898-2	ASME B18.2.2/ANSI B18.2.4.1M	1/4" ~ 4"	M10 ~ M160
	HEAVY HEX NUT	A194,A453,A563,ISO 898-2	ASME B18.2.2/ANSI B18.2.4.6M	1/4" ~ 6"	M10 ~ M160
	HEX JAM NUT	A194,A453,A563,ISO 898-2	ASME B18.2.2/ANSI B18.2.4.1M	1/4" ~ 4"	M10 ~ M36
	FITTED NUT	JIS G4053(SCM435,SCM440)	CUSTOMER SPECIFICATION		M20 ~ M120
	COUPLING NUT	JIS G4053(SCM435,SCM440)	CUSTOMER SPECIFICATION		M50 ~ M180
	ROUND NUT	JIS G4053(SCM435,SCM440)	CUSTOMER SPECIFICATION		M30 ~ M120
	HYDRAULIC NUT	JIS G4053(SCM435,SCM440)	CUSTOMER SPECIFICATION		M30 ~ M120
Etc	PLUG	A105,A182,A350,S45C	ANI B16.11	1/8" ~ 4"	
	WASHER	A510,A580ASWRH,F436,S45C	ASME B18.21.1/IF1532/JIS B1251	1/2" ~ 3"	

## COATING

DESCRIPTION	SPECIFICATION	MATERIAL
HOT-DIP GALVANIZED	ASTM 123 , ASTM A153 , ISO 10684	IRON AND STEEL PRODUCT IRON AND STEEL HARDWARE FASTENERS
ELECTRO- DEPSITER	ASTM B633 , ASTM B766 ISO 2081 , ASTM B841	ZINK , CADMIUM , ZN+NI
NON-ELECTRONICALLY ZINK FLAKE	ISO 10683	ZINK
ZINK PHOSPHATE	ASTM F1137 , ISO 11408	ZN / MN
PTFE (Poly Tetra Fluoro Ethylene)	XYLAN 1070 , 1052 , 1014 , 1424 XYLAR 2 , SERMAGARD 1105/1280	XYLAN

## STAINLESS STEEL

DESCRIPTION	MATERIAL
Martensitic	403 , 410 , 410S , 410JI , 416 , 420JI , 420J2 , 420F , 431 , 440A , 440B , 440C
Ferritic	405 , 429 , 430 , 430F , 434
Austenitic	201 , 202 , 301 , 302 , 303 , 303Se , 304 , 304L , 304N1 , 304N2 , 305 , 305J1 , 309S , 310S , 316 , 316N , 316L , 316JI , 16JIL , 317 , 317L , 321 , 347 , 384 , XM7 , XM15JI , 329JI

## DUPLEX ALLOY

MATERIAL	UNS	ASTM
ALLOY 2205 - DUPLEX 2205	S31803 , S32205	A182 , A76 , A479
ALLOY 2507-25Cr	S32750 , S32760	A182 , A76 , A479

## TITAIUM

MATERIAL	UNS	ASTM
TITAIUM Gr. 2 / 5 / 7	R50400 , R56400 , R52400	B348 , B265

## 6%-MOLY

MATERIAL	UNS	ASTM
6-MOLY	N08925 , N08926 , N08367	B649 , A182 , A276 , A479 , B688
254SMO	S31254	A182 , A276 , A479

## NICKEL ALLOYS

MATERIAL	UNS	ASTM
ASTM A453 Gr 660 Class A / B / C / D	S66286	
HASTELLOY C276	N10276	B574 , B622
INCOLOY A286 / 800 / 800H / 825 / 925	S66286 , N08800 , N08810 , N08825 , N09925	A453 , B407 , B408 , B564 B423 , B425 , B805
MONEL 400 / K500	N04400 , N05500	B164 , B865
INCONEL 625 / 718 / 750	N006625 , N07718 , N07750	B446 , B564 A1014 , B637



1<sup>st</sup> PLANT (Cutting, Forging, Heat Treatment)



2<sup>nd</sup> PLANT (CNC, Rolling, Package)



**JUNGSAN**  
**JUNGSAN ENTERPRISE Co., Ltd.**

**1<sup>st</sup> PLANT / QM Dep` t**

#32, Am-ri 3-gil, Samdong-myun, Ulju-gun, Ulsan city, South Korea  
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**2<sup>nd</sup> PLANT / HEAD OFFICE**

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 Website : [www.jungsan.com](http://www.jungsan.com)  
 E-mail : [sales@jungsan.com](mailto:sales@jungsan.com)