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INDUSTRIAL FASTENERS

PRODUCT CATALOGUE

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ISO 9001:2015 CERTIFIED

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ISO 9001:2015 | 10,000+ SKUs | 50+ Countries

Hex Bolts & Nuts

DIN 931/933/934 M3 to M100

Stud Bolts

ASME B16.5 All ASTM grades

Foundation & Anchor

J-Bolt / L-Bolt ASTM F1554

Threaded Rods & Studs

DIN 975 Full thread M3-M100

Eye Bolts & Hook Bolts

DIN 580 Working load rated

U-Bolts & Pipe Clamps

All pipe sizes HDG / SS316

Structural Bolts

ASTM A325 / A490 EN 14399

T-Bolts & Carriage

DIN 2617/603 Slot & coach

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All products manufactured under ISO 9001:2015 QMS. Dimensions are indicative - confirm before procurement.

EN 10204 3.1 MTRs, dimensional inspection reports and PMI certificates available on all orders.

Custom sizes, special thread forms and exotic alloy grades available on request from our engineering team.

Hex Bolts, Cap Screws & High-Tensile Bolts

DIN 931 (Part Thread) / DIN 933 (Full Thread) / ISO 4014 / ISO 4017 | M3 to M100 | Grade 4.6 to 12.9

Hex bolts are the most widely used industrial fastener. DIN 931 has a partial thread; DIN 933 is fully threaded throughout. Property classes: 4.6 general duty, 8.8 high-strength standard, 10.9 structural, 12.9 ultra-high for socket cap screws. Heavy Hex Bolts (ASTM A307) have larger AF and heavier head - required for ASME B16.5 flanged joint applications.

A | HEX BOLT KEY DIMENSIONS (DIN 931/933 / ISO 4014/4017) All dims in mm

Size	Pitch (mm)	AF s (mm)	Head Ht k (mm)	Nut Ht m (mm)	Min Len (mm)	Max Len (mm)	Thread Len b (mm)	Grade Range
M3	0.50	5.5	2.0	2.4	8	50	12	4.6-12.9
M4	0.70	7.0	2.8	3.2	8	80	14	4.6-12.9
M5	0.80	8.0	3.5	4.0	10	100	16	4.6-12.9
M6	1.00	10.0	4.0	5.0	10	200	18	4.6-12.9
M8	1.25	13.0	5.3	6.5	12	300	22	4.6-12.9
M10	1.50	17.0	6.4	8.0	16	300	26	4.6-12.9
M12	1.75	19.0	7.5	10.0	20	400	30	4.6-12.9
M14	2.00	22.0	8.8	11.0	25	400	34	4.6-10.9
M16	2.00	24.0	10.0	13.0	25	500	38	4.6-12.9
M20	2.50	30.0	12.5	16.0	30	500	46	4.6-12.9
M24	3.00	36.0	15.0	19.0	40	600	54	4.6-10.9
M30	3.50	46.0	18.7	24.0	50	600	66	4.6-10.9
M36	4.00	55.0	22.5	29.0	60	800	78	4.6-8.8
M42	4.50	65.0	26.0	34.0	70	1000	90	4.6-8.8
M48	5.00	75.0	30.0	38.0	80	1000	102	4.6-8.8
M56	5.50	85.0	35.0	45.0	90	1500	118	4.6-8.8
M64	6.00	95.0	40.0	51.0	100	2000	134	4.6-8.8
M80	6.00	115.0	50.0	64.0	100	2500	166	4.6-8.8
M100	6.00	145.0	63.0	80.0	150	3000	206	4.6-8.8

DIN 931 thread length: $b = 2d + 6\text{mm}$ for $d \leq 125\text{mm}$. Unthreaded shank provides grip in bolted joint.

DIN 933 fully threaded throughout. Specify FT (Full Thread) when ordering to avoid ambiguity.

Heavy Hex per ASTM A307: larger AF, heavier head. Mating nut: ASTM A194 Grade 2H or 2HM (sour service).

Hex Nuts, Lock Nuts & Specialty Nuts

DIN 934 / DIN 980 / DIN 985 / ISO 4032 | M3 to M100 | All grades | CS / SS 304 / SS 316 / Brass

A | HEX NUT TYPES & DIMENSIONS (DIN / ISO)

Nut Type / Standard	Size Range	AF (eg M16) (mm)	Height (eg M16) (mm)	Grade / Class	DIN / ISO Std	Materials	Application
Standard Hex Nut	M3-M100	24	13	4/5/6/8	DIN 934 / I	CS / SS / Bra	General purpose - most common
Heavy Hex Nut	M8-M100	27	16	2H / A194	ASTM A194	CS / A105 / S	ASME B16.5 flanging
Nyloc Lock Nut (Nylon Inse	M3-M24	24	19	Class 10	DIN 985 / I	CS zinc / SS	Vibration-resistant lock nut
All-Metal Lock Nut	M3-M36	24	14	Class 10	DIN 980 / I	CS / SS 304/	High-temp where nylon fails
Prevailing Torque Nut	M6-M48	36	24	Class 8	DIN 982 / I	CS zinc / SS	High-cycle vibration duty
Flange Nut - Serrated	M5-M20	24	13	Class 8	DIN 6923 /	CS zinc / SS	Self-locking via serrated flange
Cap Nut / Dome Nut	M4-M16	22	20	Class 6	DIN 1587 /	CS zinc / SS /	Decorative - exposed thread safety
Coupling Nut / Long Nut	M5-M48	24	40	Class 6/8	DIN 6334	CS zinc / SS	Thread joining - rod extension
Slotted / Castle Nut	M6-M36	24	13	Class 6	DIN 935 / I	CS / SS 304	Split pin retention - shafts
Wing Nut - Thumb Nut	M4-M16	24	13	Class 5	DIN 315 / I	CS zinc / Bra	Hand-tighten without tools
Square Nut	M3-M12	13sq	4.0	Class 5	DIN 557 / I	CS / SS 304	T-slots, light fixtures, frames
T-Slot Nut	M5-M16	Slot	Slot	Class 8	DIN / cust	CS / SS 304	CNC machine table T-slots

Heavy Hex Nuts ASTM A194: Grade 2H for B7 studs, 2HM for B7M sour service, Grade 8 for B8/SS studs.
 All-metal lock nuts recommended for temperatures above 120 deg C where nylon insert would degrade.

Washers - Flat, Spring Lock, Toothed & Specialty

DIN 125 / DIN 127 / DIN 9021 / DIN 6798 | ISO 7089 / ISO 7090 | M3 to M100

A | FLAT WASHER DIMENSIONS (DIN 125A / ISO 7089 / ASME B18.22.1) All dims in mm

Size	Inner Dia di (mm)	Outer Dia do (mm)	Thickness t (mm)	DIN 9021 Large OD	Spring W DIN 127 OD	Grade / Hardness	Materials
M3	3.4	7	0.5	9	6.2	140 HV	CS / SS 304/316 / Brass
M4	4.5	9	0.8	12	7.6	140 HV	CS / SS 304/316 / Brass
M5	5.5	10	1.0	15	9.2	140 HV	CS / SS 304/316 / Brass
M6	6.6	12	1.6	18	11.4	140 HV	CS / SS 304/316 / Brass
M8	9.0	16	1.6	24	14.8	200 HV	CS / SS 304/316 / Brass
M10	11.0	20	2.0	30	18.1	200 HV	CS / SS 304/316 / Brass
M12	13.5	24	2.5	37	21.1	200 HV	CS / SS 304/316 / Brass
M14	15.5	28	2.5	44	24.1	200 HV	CS / SS 304/316
M16	17.5	30	3.0	50	27.4	200 HV	CS / SS 304/316
M20	22.0	37	3.0	60	33.5	200 HV	CS / SS 304/316
M24	26.0	44	4.0	72	40.0	300 HV	CS / SS 304/316
M30	33.0	56	4.0	92	50.5	300 HV	CS / SS 304/316
M36	39.0	66	5.0	110	60.0	300 HV	CS / SS 304/316
M42	45.0	78	6.0	125	70.0	300 HV	CS / SS 304/316
M48	52.0	92	6.0	145	80.0	300 HV	CS / SS 304
M56	60.0	105	6.0	165	--	300 HV	CS / SS 304
M64	68.0	115	8.0	185	--	300 HV	CS / SS 304
M80	84.0	140	8.0	220	--	300 HV	CS
M100	104	175	10	275	--	300 HV	CS

DIN 9021 (Large OD / Fender Washer): outer diameter approx 3x nominal - for soft substrates and insulation cladding.

DIN 127 Spring (Split Lock) Washer: prevents loosening under vibration. Not recommended for Grade 10.9/12.9 bolts.

DIN 6798 Toothed Lock Washers: Type A (External) and Type J (Internal) serrations bite into surface for self-locking.

Stud Bolts & Tie Rods - ASME B16.5 / ASTM A193

B7 / B7M / B8 / B8M / L7 | Class 150 to 2500 | NACE MR0175 | All flange sizes

Stud bolts for ASME B16.5 flanged joints consist of a fully threaded stud with two heavy hex nuts (A194 Grade 2H or 2HM). ASTM A193 B7 (Cr-Mo alloy steel) is the most common grade. B7M is NACE-compliant low-hardness version for sour H2S service. Stud bolt length = flange gap + 2 nut heights + 2 x 2-thread projection. Thread UNC per ASME B1.1.

A | ASTM A193 STUD BOLT GRADES - MECHANICAL REQUIREMENTS

Grade	Material	UTS (ksi)	Yield (ksi)	Hardness (max)	Max Temp	Nut Grade (A194)	Key Service
B7	Cr-Mo Alloy Steel 414	125	105	321 HB	650 C	2H	General refinery / process
B7M	Cr-Mo Alloy Steel (HT)	125	105	235 HB	650 C	2HM	Sour service H2S - NACE MR0175
B16	Cr-Mo-V Alloy Steel	125	105	321 HB	815 C	4	High-temp steam piping
L7	Cr-Mo Alloy (Impact te	125	105	321 HB	-100 C	7F	Low-temperature cryogenic
L7M	Cr-Mo Alloy (LT + NA	125	105	235 HB	-101 C	7F	LT sour service combined
B8 C11	SS 304 annealed	75	30	192 HB	870 C	8	SS flanging - general
B8 C12	SS 304 strain hardene	125	100	35 HRC	315 C	8	High-load SS service
B8M	SS 316 annealed	75	30	192 HB	870 C	8M	SS 316 - marine / chemical
B8M C12	SS 316 strain hardene	125	100	35 HRC	315 C	8M	High-load SS 316 service
B8T	SS 321 annealed	75	30	192 HB	870 C	8T	Stabilised SS - high temp
B8C	SS 347 annealed	75	30	192 HB	870 C	8C	Stabilised 347 - creep service
B8N	SS 304N nitrogen enh	100	80	241 HB	540 C	8N	Higher-strength austenitic

ASME B16.5 stud bolt kit: specify Class, NPS and material e.g. '4 inch 300 class B7/2H stud bolt set ASME B16.5'.

NACE MR0175: B7M + 2HM nuts mandatory. Max hardness 22 HRC all components in H2S sour service.

Foundation Bolts, J-Bolts & Anchor Rods

ASTM F1554 | DIN 529 | Grade 36 / 55 / 105 | M8 to M100 | HDG / Plain / SS316

Foundation bolts (J-bolts, L-bolts, straight anchor rods) are cast into concrete to anchor structural steel, machinery and towers. ASTM F1554 Grade 36 = general structural. Grade 55 = heavy machinery. Grade 105 = high-strength critical. All grades HDG available.

A | ASTM F1554 ANCHOR ROD GRADES - MECHANICAL REQUIREMENTS

Grade	Tensile (ksi min)	Yield (ksi min)	Elongation (%)	Weldable	Thread Std	Size Range	Application
Grade 36	58 min	36 min	23	Yes	UNC / Metr	1/2 to 4 inch	General construction, column bases
Grade 55	75 min	55 min	21	Cond.	UNC / Metr	1/2 to 4 inch	Heavy machinery, equipment bases
Grade 105	125 min	105 min	15	No	UNC / Metr	1/2 to 3 inch	High-strength critical anchorage

B | J-BOLT & L-BOLT DIMENSIONS (DIN 529 / ASTM F1554) All dims in mm

Size	Thread Len b (mm)	Total Len L range	Hook Len J (mm)	Bend Radius r	Sleeve Avail.	ASTM Grade	HDG Avail.
M8	40	150-300	40	16	Yes	Grade 36	Yes
M10	50	200-400	50	20	Yes	Grade 36	Yes
M12	60	250-500	60	24	Yes	Grade 36/55	Yes
M16	75	300-600	80	32	Yes	Grade 36/55	Yes
M20	90	400-800	100	40	Yes	Grade 55	Yes
M24	110	500-1000	120	48	Yes	Grade 55/105	Yes
M30	130	600-1200	150	60	Yes	Grade 55/105	Yes
M36	160	800-1500	180	72	Yes	Grade 105	Yes
M42	200	1000-1500	210	84	Req.	Grade 105	Yes
M48	200	1000-2000	240	96	Req.	Grade 105	Yes
M56	240	1200-2500	280	112	Req.	Grade 105	Yes
M64	280	1500-3000	320	128	Req.	Grade 105	Yes
M80	320	2000-3000	400	160	Req.	Custom	Yes
M100	400	2000-3000+	500	200	Req.	Custom	Yes

Eye Bolts, Hook Bolts & Lifting Hardware

DIN 580 Eye Bolt | DIN 444 Eye Rod | Working Load Limit (WLL) rated | M6 to M64

Eye bolts are used for lifting, rigging and lashing. DIN 580 collar eye bolt is the standard lifting type. Always use within WLL. Never apply side load to a standard eye bolt without applying the appropriate reduction factor. **IMPORTANT: WLL values are for vertical lift only. Inclined loads reduce capacity - consult certified load charts.**

A | EYE BOLT DIMENSIONS & WORKING LOAD LIMIT (DIN 580 / BS 4278)

Size	Eye ID (mm)	Eye OD (mm)	Shank Len (mm)	Collar Dia (mm)	WLL Vert (kg)	WLL 45 deg (kg)	WLL 90 deg (kg)	Thread Std
M6	16	30	25	18	60	30	15	DIN 580
M8	20	36	30	22	120	60	30	DIN 580
M10	25	44	40	28	200	100	50	DIN 580
M12	32	55	45	32	340	170	85	DIN 580 / BS4278
M16	40	70	60	42	640	320	160	DIN 580 / BS4278
M20	50	85	75	52	1000	500	250	DIN 580 / BS4278
M24	60	105	90	62	1500	750	375	DIN 580 / BS4278
M30	75	130	110	78	2500	1250	625	DIN 580 / BS4278
M36	90	155	130	93	4000	2000	1000	DIN 580 / BS4278
M42	105	185	160	108	5500	2750	1375	DIN 580
M48	120	210	180	123	7500	3750	1875	DIN 580
M64	160	280	240	163	13000	6500	3250	DIN 580

B | HOOK BOLT & SPECIALTY LIFTING FASTENERS

Square Hook Bolt M8-M36	DIN 379	120-30 deg hook. Machine, fan and roofing sheet fixing to purlins.
Round Hook Bolt M8-M30	DIN 162	Full 360 deg hook. Hanging fixtures, pendant mounting, pipe suspension.
Shoulder Eye Bolt M8-M64	DIN 580	Shoulder/collar for side-load rated rigging. WLL per certified load chart.
Swivel Eye Bolt M8-M48	Custom	Rotating eye - full WLL in any direction. For multi-leg slings.
Ringscrew / Eye Nut M8-M48	DIN 582	Nut with eye - used with stud or anchor bolt to create lifting point.
J-Hook Bolt M8-M36	Custom	J-shaped. Roofing fixings, anchor in concrete, structural hangers.

U-Bolts, Pipe Clamp Bolts & Band Clamps

Round & Square Bend | All pipe ODs | DIN 3570 | HDG / SS 316 / CS Zinc | M6 to M30

U-bolts clamp around pipes and tubes. Round bend follows pipe OD. Square bend provides flat bearing for pipe clamps. Specify: thread size, pipe OD (or NPS), inside width, leg length and bend type (round/square).

A | U-BOLT DIMENSIONS FOR COMMON PIPE SIZES (DIN 3570 / ASTM F436) All dims mm

Pipe NPS / OI	Pipe OD (mm)	Thread Size	Inside Width (mm)	Leg Len (mm)	Bend Rd (mm)	Thread Len (mm)	WLL Est (kg)	Material Options
1/2 in / 15	21.3	M8	25	70	11	30	800	CS zinc / SS 316 / HDG
3/4 in / 20	26.7	M8	30	80	14	30	1000	CS zinc / SS 316 / HDG
1 in / 25	33.4	M10	37	90	17	35	1500	CS zinc / SS 316 / HDG
1-1/2 in / 40	48.3	M10	52	100	25	35	2000	CS zinc / SS 316 / HDG
2 in / 50	60.3	M12	64	110	31	40	3000	CS zinc / SS 316 / HDG
2-1/2 in / 65	73.0	M12	77	125	38	40	3500	CS zinc / SS 316 / HDG
3 in / 80	88.9	M16	93	140	45	50	5000	CS zinc / SS 316 / HDG
4 in / 100	114.3	M16	118	160	58	50	7000	CS zinc / SS 316 / HDG
5 in / 125	141.3	M20	145	180	72	60	9000	CS zinc / HDG
6 in / 150	168.3	M20	172	200	86	60	12000	CS zinc / HDG
8 in / 200	219.1	M24	223	230	110	70	16000	CS zinc / HDG
10 in / 250	273.1	M24	277	270	137	70	20000	CS zinc / HDG
12 in / 300	323.9	M30	328	310	162	85	26000	CS zinc / HDG

B | CUSTOM U-BOLT SPECIFICATION GUIDE

Standard U-bolt: Thread M16 x Pipe 3 inch NPS x Leg 180mm x Round Bend x HDG to ISO 1461 Qty 50

Square bend: Thread M12 x Inside Width 120mm x Leg 150mm x Square Bend x CS Zinc Plated Qty 100

Custom OD/non-standard: provide pipe OD, leg length, thread size and material for immediate quotation.

All U-bolts supplied with 2 hex nuts and 2 flat washers as standard. Heavy hex nuts available on request.

T-Head Bolts, Carriage Bolts & Specialty Head Fasteners

DIN 261 T-Bolt | DIN 603 Carriage Bolt | Square Head | M6 to M36 | CNC / Machine slots

T-head bolts (DIN 261) slide into T-slots in machine tool tables and jig plates. The T-head prevents rotation as the nut tightens. Carriage bolts (DIN 603) have a round domed head with a square neck that bites into wood to prevent spinning during tightening.

A | T-HEAD (T-SLOT) BOLT DIMENSIONS (DIN 261 / ISO 8892) All dims mm

Size	Head Width B	Head Len L1	Head Ht K	Neck Sq N	Shank Len range	Thread Len b	T-slot Fit	Grade
M6	11	17	6.4	7.5	20-80	18	10mm sl	8.8 / 10.9
M8	15	23	8.4	10.0	25-120	22	14mm sl	8.8 / 10.9
M10	18	27	10.4	12.5	30-160	26	18mm sl	8.8 / 10.9
M12	22	33	13.0	15.0	40-200	30	22mm sl	8.8 / 10.9
M16	28	43	17.0	19.0	50-250	38	28mm sl	8.8 / 10.9
M20	35	53	21.0	24.0	60-300	46	36mm sl	8.8 / 10.9
M24	42	63	25.0	29.0	80-400	54	42mm sl	8.8 / 10.9
M30	52	78	32.0	36.0	100-500	66	54mm sl	8.8
M36	62	93	38.0	43.0	120-600	78	62mm sl	8.8

B | CARRIAGE BOLT & SQUARE HEAD BOLT (DIN 603 / DIN 478/479)

Type / Standard	Size Range	Head Dia / AF	Head Ht	Square Neck	Len Range	Grade / Material	Application
Carriage Bolt - DIN 603	M6-M24	2.0xd OD	0.5xd	0.55xd sq	20-300mm	Grade 4.6 / SS	Timber frame, decking, post joints
Square Head Bolt - DIN 4	M6-M36	AF per DIN	0.7xd	--	20-300mm	Grade 4.6 / 8.8	Spanner, no socket access
Square Head Set Screw	M6-M24	AF per DIN	0.7xd	--	10-100mm	Grade 4.6 / 8.8	Set screws with square drive
Dome / Mushroom Head	M6-M20	2.5xd OD	0.6xd	0.55xd sq	20-200mm	CS zinc / SS /	Vandal-resistant, anti-tamper
Plough Bolt (Countersunk)	M10-M24	Flush CSK	Flush	0.55xd sq	50-200mm	Grade 4.6 / 8.8	Agricultural, conveyor frames

Structural & High-Strength Friction Grip Bolts

ASTM A325 / A490 | EN 14399 HV / HR | ISO 4014 Grade 8.8 / 10.9 / 12.9 | Structural steel

High-strength structural bolts are used in slip-critical and bearing-type connections in structural steelwork. ASTM A325 / A490 are North American standards. EN 14399 (HV/HR) is the European equivalent. HSFG is the UK term. All structural bolts require calibrated installation - snug-tight plus rotation or torque per AISC / BCSA guidance.

A | STRUCTURAL BOLT GRADE COMPARISON (ASTM / EN / ISO)

Standard / Grade	Size Range	Tensile (MPa)	Yield (MPa)	Proof Load (MPa)	Nut Grade	Washer	Surface Finis	Application
ASTM A325 Type 1	1/2 to 1-1	825	635	585	A563 DH	F436	Plain / HD	General structural steel
ASTM A325 Type 3	1/2 to 1-1	825	635	585	A563 DH	F436	Weatherin	Exposed Corten structures
ASTM A490 Type 1	1/2 to 1-1	1040	940	825	A563 DH	F436	Plain	High-strength - no galvanizing
EN 14399-4 HV (10.9)	M16 to M	1040	940	830	ISO 10 H	HV Ws	Geomet / p	European preloaded bolt
EN 14399-8 HRC (10.9)	M16 to M	1040	940	830	10 HRC	HV Ws	Geomet / p	Direct Tension Indicator
ISO 4014 Grade 10.9	M6 to M6	1040	940	830	ISO Gr 1	DIN 12	Zinc / Geo	General high-strength metric
ISO 4014 Grade 12.9	M3 to M3	1220	1100	970	ISO Gr 1	DIN 12	Black oxid	Ultra-high-str socket cap

B | INSTALLATION TORQUE REFERENCE (Indicative - dry uncoated bolts on steel joints)

Size / Grade	Snug Tight (Nm)	Proof Load Torque (Nm)	Turn-of-Nut	Min Bolt Tension (kN)	Note
M16 Grade 8.8	80	206	1/3 turn	53	Structural shear connection
M20 Grade 8.8	160	408	1/3 turn	85	
M24 Grade 8.8	275	700	1/3 turn	110	
M16 Grade 10.9	105	280	1/4 turn	70	EN 14399 HV
M20 Grade 10.9	215	545	1/4 turn	110	
M24 Grade 10.9	370	940	1/4 turn	145	
1/2 in A325	90	240	1/3 turn	53	AISC structural - imperial
3/4 in A325	310	830	1/3 turn	124	
1 in A490	700	1800	1/4 turn	227	A490 cannot be hot-dip galv.

Threaded Rods, Studs & Double-Ended Studs

DIN 975 Full Thread Rod | DIN 976 Stud | ISO 888 | M3 to M100 | 1m / 2m / 3m lengths

A | THREADED ROD WEIGHT PER METRE (kg/m) & PER STANDARD LENGTHS - KEY SIZES

Size	Pitch (mm)	Minor Dia (mm)	CS kg/m	SS304 kg/m	SS316 kg/m	Ti Gr2 kg/m	CS 1m (kg)	CS 2m (kg)	CS 3m (kg)	Grade / Class
M3	0.50	2.387	0.0555	0.0561	0.0564	0.0319	0.055	0.111	0.166	4.8/8.8/A2/A4
M4	0.70	3.141	0.0986	0.0997	0.1003	0.0567	0.099	0.197	0.296	4.8/8.8/A2/A4
M5	0.80	4.018	0.1541	0.1557	0.1567	0.0886	0.154	0.308	0.462	4.8/8.8/A2/A4
M6	1.00	4.773	0.2220	0.2242	0.2256	0.1275	0.222	0.444	0.666	4.8/8.8/A2/A4
M8	1.25	6.466	0.3946	0.3986	0.4011	0.2267	0.395	0.789	1.184	4.8/8.8/A2/A4
M10	1.50	8.160	0.6165	0.6228	0.6267	0.3542	0.617	1.233	1.850	4.8/8.8/A2/A4
M12	1.75	9.853	0.8878	0.8969	0.9025	0.5101	0.888	1.776	2.663	4.8/8.8/A2/A4
M16	2.00	13.546	1.5783	1.5944	1.6045	0.9068	1.578	3.157	4.735	4.8/8.8/A2/A4
M20	2.50	16.933	2.4662	2.4913	2.5070	1.4169	2.466	4.932	7.398	4.8/8.8/A2/A4
M24	3.00	20.319	3.5513	3.5874	3.6101	2.0403	3.551	7.103	10.654	4.8/8.8/A2/A4
M30	3.50	25.706	5.5488	5.6054	5.6407	3.1879	5.549	11.098	16.647	4.8/8.8/A2/A4
M36	4.00	31.092	7.9903	8.0718	8.1227	4.5906	7.990	15.981	23.971	4.8/8.8/A2/A4
M42	4.50	36.479	10.8757	10.9866	11.0558	6.2483	10.876	21.751	32.627	4.8/8.8/A2/A4
M48	5.00	41.865	14.2050	14.3498	14.4403	8.1611	14.205	28.410	42.615	4.8/8.8/A2/A4
M56	5.50	49.252	19.3346	19.5317	19.6548	11.1082	19.335	38.669	58.004	4.8/8.8/A2/A4
M64	6.00	56.639	25.2534	25.5107	25.6716	14.5086	25.253	50.507	75.760	4.8/8.8/A2/A4
M80	6.00	72.639	39.4584	39.8605	40.1119	22.6697	39.458	78.917	118.375	4.8/8.8/A2/A4
M100	6.00	92.639	61.6538	62.2821	62.6748	35.4215	61.654	123.308	184.961	4.8/8.8/A2/A4

B | STUD TYPES & APPLICATIONS (DIN 835 / 836 / 938 / 939 / 940)

End Stud - DIN 835

M6-M48

1d shank / 2d thread at one end. Fixed end screwed into tapped hole.

App: Machine bodies, bearing housings

Middle Stud - DIN 836

M6-M48

Equal thread both ends separated by plain shank of defined length.

App: Through-bolt replacements, tie rods

Tap-End Stud - DIN 938

M5-M48

Short thread (1d) one end, long thread (2d) other. Screws into casting.

App: Cylinder heads, pump housings, flanges

Tap-End Stud - DIN 939

M5-M48

Short thread (1.25d) for softer materials - aluminium, brass, cast iron.

App: Aluminium housings, non-ferrous castings

Full-Thread Stud DIN 976

M3-M100

Threaded entire length. Equivalent to threaded rod cut to length.

App: Flanges, anchor applications

Hammer Head Stud

M6-M30

T-head slides into T-slot track, rotated 90 deg to lock in place.

App: Aluminium extrusion systems, solar

Double-End Stud DIN 940

M5-M48

Equal length threads both ends - symmetrical tie rod configuration.

App: Pressure vessel bolting, tie rod sets

Exotic Alloy & High-Performance Fasteners

Inconel | Hastelloy | Duplex | Titanium | Monel | A193 B7 | All grades PMI tested

A | EXOTIC MATERIAL GRADES - MECHANICAL PROPERTIES & APPLICATIONS

Material / Grade	UNS No.	Tensile (MPa)	Yield (MPa)	Density (g/cc)	Max Temp	Corr Class	Typical Application
Inconel 625	N06625	827	414	8.44	980 C	C5 extrem	Subsea, offshore, HT pressure flanges
Inconel 718	N07718	1275	1034	8.22	700 C	C5 extrem	Gas turbine fasteners, aerospace
Hastelloy C-276	N10276	690	283	8.89	1040 C	C5 extrem	HCl acid / FGD / chemical reactors
Hastelloy C-22	N06022	690	310	8.69	1040 C	C5 extrem	Mixed acid environments, pharma
Monel 400	N04400	550	240	8.80	480 C	C5 marine	Marine seawater / HF acid service
Monel K500	N05500	1000	690	8.44	480 C	C5 marine	High-str marine / subsea shafting
Duplex 2205	S31803	620	450	7.80	350 C	C5	Offshore desalination / chloride
Super Duplex 2507	S32750	800	550	7.81	300 C	C5 extrem	Subsea pipeline / offshore HPHT
Titanium Grade 2	R50400	345	275	4.51	315 C	C5 extrem	Lightweight marine / aerospace
Titanium Grade 5 (ELI)	R56400	950	880	4.43	315 C	C5 extrem	Aerospace / high-str lightweight
ASTM A193 B7 (Cr-Mo)	--	860	725	7.85	650 C	C1-C2	Flange stud bolts - general duty
ASTM A193 B7M (NACE)	--	860	725	7.85	650 C	C1-C2	Sour H2S service - NACE MR0175

B | DOCUMENTATION AVAILABLE FOR ALL EXOTIC ALLOY ORDERS

EN 10204 3.1 MTR

Chemical + mechanical test from accredited lab

EN 10204 3.2 MTR

Third-party witness inspection available

PMI XRF Test

Positive material identification - every piece

NACE Compliance

MR0175 hardness and SSC resistance cert

Heat Treat Cert

Q&T / annealing / stress relief records

Dim. Inspection

100% report with calibration traceability



CONTACT & ORDERING

Send your enquiry, BOM or drawing - receive a competitive quote within 24 hours.

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RR Hydraulic Precision Fasteners

Building No.2 EXN-1, Rajprabha Udyog Nagar, Golani Naka, Waliv Vasi East, Thane - 401208, Maharashtra, India

HOW TO SPECIFY A FASTENER ORDER:

Hex Bolt:

M16 x 80mm Grade 8.8 DIN 931 Zinc Plated Qty 200

Stud Bolt:

1 inch x 120mm A193 B7 / A194 2H ASME B16.5 Class 300 Qty 50

Anchor Rod:

M24 x 600mm J-Bolt ASTM F1554 Grade 55 HDG DIN 529 Qty 20

U-Bolt:

M16 x 3 inch NPS x Leg 180mm Round Bend CS HDG DIN 3570 Qty 50

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