

Producing
Fasteners
that are Industry
acknowledged



CATEGORY

BOLTS

SCREWS

PLUGS

NUTS

WASHERS

STUDS

PINS

ENGINEERED

PRODUCTS



We produce all our fasteners according to DIN, ISO, JIS, ASME, and other international standards. Additionally, we manufacture fasteners, anti-rotation pins, and other engineered products tailored to customer specifications.

We have a strong reputation for producing components using materials such as SS316, Super Duplex, SS 316 TI, SS 329, Hastelloy, Alloy 20, Inconel, Titanium, and various other exotic materials (Super Alloy).

Learning is essential for growth, which is central to our business culture. With extensive industry experience, we continue to embrace new technologies and innovations. We are ready to tackle challenges in various sectors, including Oil and Gas, Refineries, Chemical Processing, Nuclear Power, Renewable Energy, Mining, Pharmaceuticals, and Food Industries.

BOLTS



Hexagon head bolts part Thread

Metric DIN931 hexagon head bolts are fasteners characterized by external threads, a hexagonal head, and a chamfered tip for smooth interaction with internally threaded parts. They possess a partially threaded shank and are made to exact specifications. Non-standard hex bolts can also be manufactured according to customer drawings.



Hexagon Socket head cap Screw

Metric DIN912 hexagon socket head cap screws feature a cylindrical head and an internal hexagonal drive designed for use with an Allen key or wrench. This internal drive is perfect for tight spaces where traditional wrenches cannot be used. Custom non-standard Hexagon Socket head cap screws are also manufactured per customer specifications.



Hexagon Low Socket cap Screw with pilot hole

Metric DIN6912 Hexagon Low Socket Cap Screws with pilot holes are precision fasteners featuring a cylindrical head and internal hexagonal drive. They are ideal for applications with limited head height clearance. The cylindrical pilot hole at the drive's base accommodates a spherical structure on the socket key for improved guidance and alignment. Custom non-standard screws can also be manufactured according to customer specifications.

DIAMETER

1/8"

1"

LENGTH

1/4"

6"

MATERIAL

SS 316

SS 316L

SS 304

SS 410

SS 420

DUPLEX 2205

SUPER
DUPLEX 2205

HASTELLOY-
C

INCONEL 625

INCONEL 718

MONEL 400

MONEL K-
500

ALLOY 20

TITANIUM

SCREW



Hexagon Socket
Set Screws with
flat point



Hexagon Socket
Set Screws with
cone point



Hexagon Socket
Set Screws with
dog point



Hexagon Socket
Set Screws with
Cup point



Slotted
Set
Screw
with flat
Point



Slotted Set
Screw with
cone Point



HEXAGON SOCKET
CAP SCREW WITH
FLAT COUNTERSUNK
HEAD



LOCK SCREW

We provide all standard sizes of set screws and can also produce custom hexagon socket set screws featuring flat points, cone points, dog points, and cup points, tailored to customer specifications and designs.

DIAMETER

1/8"

1"

LENGTH

AS PER STANDARD

MATERIAL

SS 316

SS 316L

SS 304

SS 410

SS 420

DUPLEX 2205

SUPER
DUPLEX 2205

HASTELLOY-
C

INCONEL 625

INCONEL 718

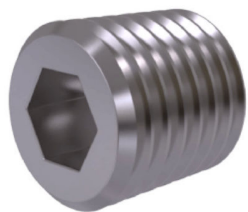
MONEL 400

MONEL K-
500

ALLOY 20

TITANIUM

PLUG



HEXAGON SOCKET PIPE PLUG

Hexagon socket screw plugs feature a hexagon socket drive (Allen drive) on one end and a tapered pipe thread throughout. They are used to seal cylindrical threaded holes in pipes and fittings that transport air, gases, or pressurized fluids. The conical threaded section creates a seal when tightened, often requiring additional sealing materials for optimal results.



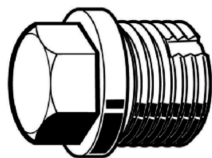
HEXAGON SOCKET SCREW PLUG WITH COLLAR

Type-A hexagon socket screw plugs feature a collar/flange and cylindrical/straight thread. They have a hexagon socket drive at one end and a cylindrical pipe thread on the other. The collar ensures a flush fit in preformed holes. Sealing gaskets are available in aluminum and copper, ideal for sealing threaded holes in pipes under pressure. Additional sealing methods may be required for optimal sealing.



HEXAGON HEAD PIPE PLUG

Hexagon head screws and pipe plugs featuring conical or tapered threads are designed with a hexagon head drive. The tapered thread ensures the plug sits flush in a tapered hole when tightened, creating a seal through the wedging action. Using a sealing compound or Teflon tape enhances the seal. Commonly used in pressurized pipes and fittings for air, gases, or fluids.



HEXAGON HEAD SCREW PLUG WITH COLLAR & VENT

Hexagon head screw plugs with a collar and vent feature an external hexagon head at one end and a cylindrical pipe thread along most of the other end. The collar ensures a flush fit in preformed holes, while the vent allows trapped air or gas to escape. These plugs are ideal for sealing threaded holes in pipes and fittings under pressure.

DIAMETER

1/8"

1"

LENGTH

1/4"

6"

MATERIAL

SS 316

SS 316L

SS 304

SS 410

SS 420

DUPLEX 2205

SUPER
DUPLEX 2205

HASTELLOY-
C

INCONEL 625

INCONEL 718

MONEL 400

MONEL K-
500

ALLOY 20

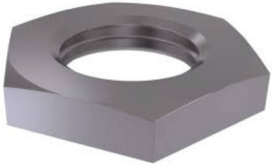
TITANIUM

NUTS



HEX NUT

Hex nuts are the standard choice for metric applications, widely utilized where metric nuts are necessary. Additionally, we manufacture non-standard hex nuts according to customer-specific designs.



HEXAGON PIPE NUT

Hexagon Pipe Nuts are the standard metric hex nuts widely used in various applications that require an Imperial nut. Additionally, we manufacture non-standard Hexagon Pipe Nuts according to customized customer specifications.



DOME NUT

Hexagon domed cap nuts, commonly known as acorn cap nuts, feature a smooth, rounded head that conceals the hex nut base. The domed design safeguards the underlying bolt threads, enhances aesthetics, and can increase safety in specific situations. Additionally, non-standard dome nuts can be manufactured according to customer specifications.



HEX HALF NUT (THIN HEX JAM NUT)

Thin hexagonal jam nuts have a thickness equal to 50% of their diameter. These low-profile nuts are perfect for securing standard nuts when space is limited. Available in un-chamfered and chamfered options, they come in both right-hand and left-hand threads. Custom Hex Half Nuts can also be produced as needed.



LOCK NUT (LOW PROFILE THIN HEX NUT/CHECK NUT)

Low Profile Hex Nuts are thinner than standard hex nuts, about half the thickness. They are used as locknuts to secure standard nuts or in applications where standard nuts are too thick.

DIAMETER

1/8"

1"

LENGTH

AS PER STANDARD

MATERIAL

SS 316

SS 316L

SS 304

SS 410

SS 420

DUPLEX 2205

SUPER
DUPLEX 2205

HASTELLOY-
C

INCONEL 625

INCONEL 718

MONEL 400

MONEL K-
500

ALLOY 20

TITANIUM

WASHERS



Medium Flat Washer

Flat washers, known as shaft washers or clevis pin washers, have larger outer diameters and thicknesses than standard washers. DIN 1440 flat washers are designed for clevis pins that use hairpins.



Coarse Flat Washer

Flat washers, also referred to as shaft washers or clevis pin washers, are designed with larger outer diameters and thicknesses than standard washers, specifically according to DIN 1441, to fit clevis pins effectively.



Oversize Flat Washer

Oversize Flat Washers are larger and thicker than standard flat washers, featuring increased outer diameters. They are commonly utilized in wood construction, particularly with timber connectors.



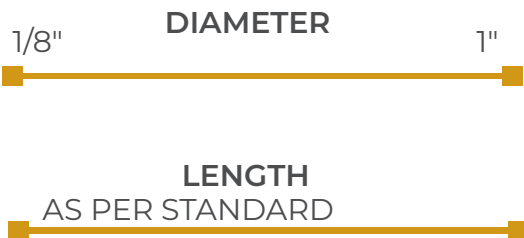
Helical Split lock washers

Helical Spring Split Lock Washers are widely used metric lock washers. They consist of a split metal ring shaped in a helix. These washers feature a left-hand helix, allowing the nut to tighten only in a right-hand direction. When compressed, they create frictional resistance by biting into the substrate. DIN 127 comes in two types: type A has bent tangs at both ends, while type B has square ends.



Curved & Waved Spring Lock washers

Type A and B Spring Lock Washers are specialized spring lock washers. They consist of split metal rings shaped into either a curved (Type A) or waved (Type B) form. Unlike standard split helical washers, DIN 128 lock washers can be tightened in either direction. When compressed, they provide spring force that resists rotation.



MATERIAL

SS 316	SS 316L	SS 304	SS 410
SS 420	DUPLEX 2205	SUPER DUPLEX 2205	HASTELLOY- C
INCONEL 625	INCONEL 718	MONEL 400	MONEL K- 500
ALLOY 20	TITANIUM		

STUDS



Engagement length equal to about 1*D

Double end studs are headless machine thread fasteners with threading engagement equal to the threading diameter. They can accept nuts on both ends or be threaded into a pre-tapped hole. Stud assemblies allow for easier assembly and disassembly, eliminating the need for perfect squareness.



Engagement length equal to about 1.25*D

Double end studs are headless machine thread fasteners with a threading engagement length of about 1.25 times the threading diameter. They can accept nuts on both ends or one end can be threaded into a pre-tapped hole. Stud assemblies simplify assembly and disassembly, allowing for adjustment.



Engagement length equal to about 2.5*D

Double end studs are headless machine thread fasteners, with threading engagement about 2.5 times the diameter. They can accept nuts on both ends or be threaded into a pre-tapped hole. Studs simplify assembly, allowing for adjustments and acting as pilots for



FULLY THREADED STUD

Fully Threaded Stud Bolts are bolts without heads, featuring threads that extend completely from one end to the other. They are intended for nuts to be fitted on both sides and are commonly utilized in electrical, construction, and plumbing applications for hanging items.



SINGLE END STUD BOLT

We also produce non-standard single end threaded studs according to the customized specifications provided by the customer.

DIAMETER

1/8"

1"

LENGTH

AS PER STANDARD

MATERIAL

SS 316

SS 316L

SS 304

SS 410

SS 420

DUPLEX 2205

SUPER
DUPLEX 2205

HASTELLOY-
C

INCONEL 625

INCONEL 718

MONEL 400

MONEL K-
500

ALLOY 20

TITANIUM

PINS



DOWELL PINS

Dowel pins are solid cylindrical rods made from different materials, intended to strengthen and accurately join multiple components. Parallel dowel pins establish a connection through friction with the material they penetrate. For proper alignment, the dowel pin should be sturdy and fit tightly into the pre-drilled holes of the joined parts. Custom non-standard dowel pins can also be manufactured according to customer specifications.



SLOTTED SPRING PINS

Slotted spring pins, or roll pins, are hollow and split along their length. They align and secure components. The pin's resting diameter exceeds the hole's diameter, compressing upon insertion. As it expands, it tightens against the hole's wall, providing resistance to shock and vibration. One end is chamfered for easier insertion. Custom non-standard slotted spring pins can also be manufactured per customer specifications.



SQUARE/RECTANGULAR HEAD PINS(ANTI ROTATION PINS)

We specialize in producing custom non-standard square and rectangular head pins, also known as anti-rotation pins, based on customer drawings. These pins serve as stoppers to prevent the rotation of stationary components in rotary units. The square or rectangular head increases the contact area for effective anti-rotation.



SPRING SLEEVE (SPRING CAP)

We manufacture Standard and non-standard Spring Sleeves according to customer drawings. These Sleeves protect springs from clogging and chemical exposure, while also preventing excessive compression during operation, ensuring smooth equipment function.

DIAMETER
AS PER REQUIREMENT

LENGTH
AS PER REQUIREMENT

MATERIAL

SS 316

SS 316L

SS 304

SS 410

SS 420

DUPLEX 2205

SUPER
DUPLEX 2205

HASTELLOY-
C

INCONEL 625

INCONEL 718

MONEL 400

MONEL K-
500

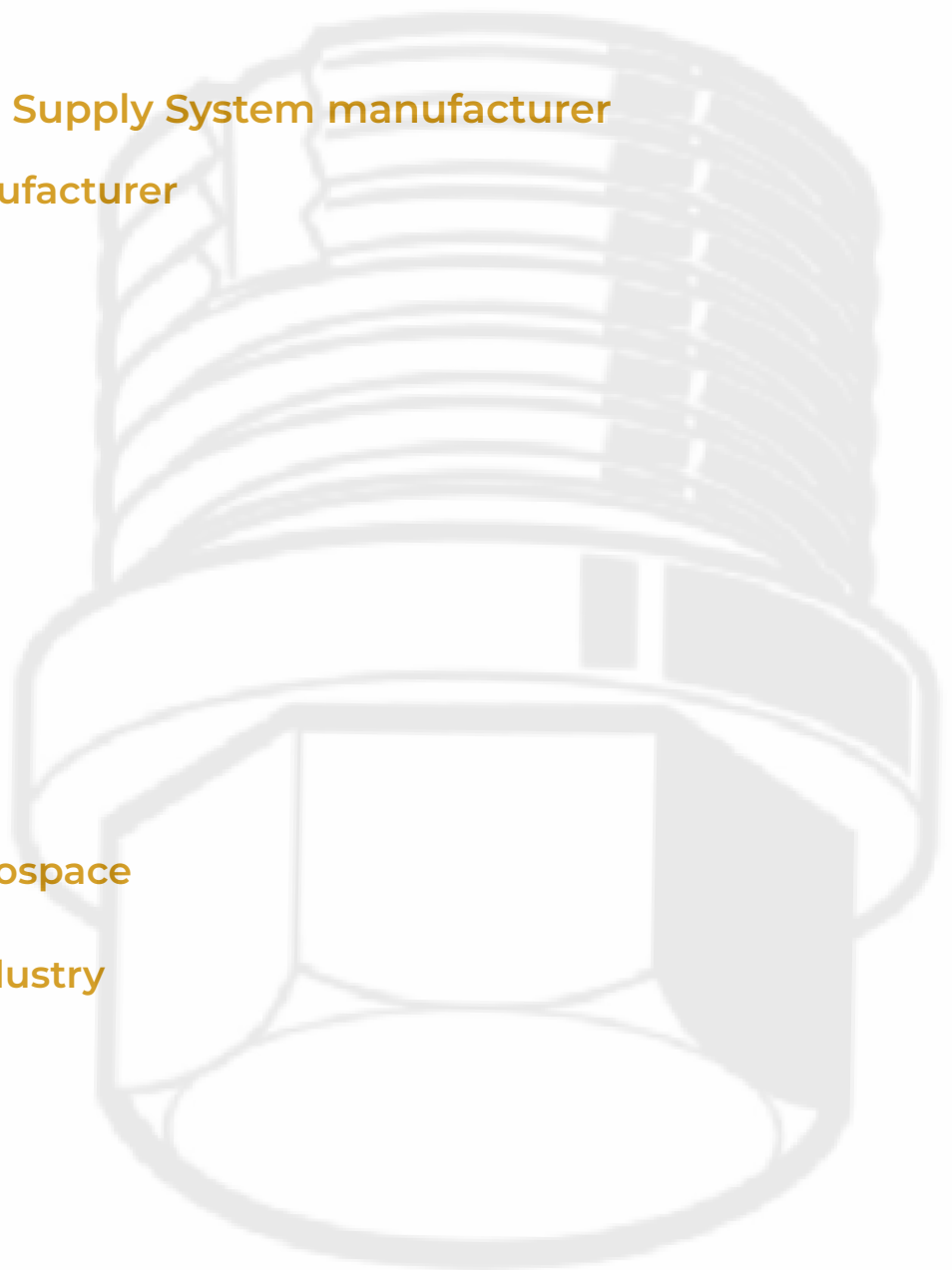
ALLOY 20

TITANIUM

Industries

We specialize in manufacturing components from materials like SS316, Super Duplex, and Inconel. Our core belief is that learning drives growth. With extensive industry experience, we embrace new technologies and challenges across sectors such as Oil and Gas, Chemical Processing, Nuclear Power, and Pharmaceuticals.

- Mechanical Seal and Supply System manufacturer
- Pump and Valve Manufacturer
- Agriculture
- Energy
- Nuclear power
- Mining
- Automobile
- Oil and Gas
- Textile
- Aeronautical and Aerospace
- Pharma and Food Industry



Fastec Glossary of Terms

alloy steel - A steel to which elements other than carbon have been added to obtain definite mechanical or physical properties, such as higher strength at elevated temperatures, toughness, etc.

annealed - A fastener that has been heated and cooled to make it free of hardness caused by working or previous heat treatment.

blank - A fastener in some intermediate stage of manufacture.

body - The unthreaded portion of the shank.

carbon steel - Contains no substantial amounts of alloying materials other than carbon.

case hardened - A fastener of ferrous material having a surface harder than the core

cold heading - Forcing metal to flow cold into dies to form thicker sections and more or less intricate detail.

commercial fastener - The material, dimensions and finish which conform to the quality level generally recognized by manufacturers and users as commercial quality

complete thread - The length of a threaded length having full form at both crest and root.

counterboring - Enlarging for part of its depth, a hole previously formed and to provide a shoulder at the bottom of the enlarged hole.

countersinking - Beveling or flaring the end of a hole. Holes into which countersunk head type fasteners are to be used must be countersunk to provide a mating bearing surface.

cup point - Generally applied to set screws. A point in the form of a cone, commonly having an included angle of 90 degrees, with a conical depression in the end commonly having an included angle of 118 degrees. The area is a circular ridge which has considerable holding power with slight penetration.

die - 1. (thread). A tool for cutting thread. Opposite of tap. 2. One of a pair of hardened metal blocks for forming, impressing, or cutting out a desired shape.

dog point - A cylindrical extension with a conical section between it and the thread; usually used as a pilot in assembling or as the end of a set screw projecting into a fairly deep hole or slot.

electro - galvanizing - Coating metal with zinc by hot dipping, electro -galvanizing or mechanically applied.

extruding - Reducing the size of some feature or diameter by forcing it through a die.

fastener - A mechanical device for holding two or more bodies in definite positions with respect to each other.

fatigue strength - The stress at which a metal can be subjected to for a specified number of cyclic changes of stress.

fillister head - Has a rounded top, cylindrical sides, and a flat bearing surface.

finish - Commonly the condition of the surface of a fastener as a result of chemical or organic treatment subsequent to fabrication.

flat head - Has a flat top and a conical bearing surface. galvanizing - Coating metal with zinc by hot dipping

gimlet point - A threaded cone point usually having a point angle of 45 to 50 degrees. It is used on thread forming screws such as Type A tapping screws, wood screws, lag bolts, etc.

grip - The thickness of material or parts which the fastener is designed to secure when assembled.

half dog point - Half as long as a dog point, used on short screws in shallower holes or slots.

hardening - Treating metals by heating to a temperature within or above the critical range, holding at that temperature for a given time, then cooling rapidly, usually by quenching in oil or water.

hardness - The resistance to plastic deformation by indentation, penetration, scratching, or bending.

head - The enlarged shape preformed on one end of a fastener to provide a bearing surface.

head diameter - The distance at the largest periphery of the head.

headed fastener - A fastener having one end enlarged or preformed.

headed and threaded rod - Similar to a machine screw with much greater length. It has a round truss, or flat head and an end threaded for a nut.

header point - A chamfered point applied to machine screws in certain sizes and lengths. heat treating - The heating and cooling of a metal to obtain desirable conditions or properties.

hexagon head - A flat top with hexagonal sides and a flat bearing surface. high strength fastener - High tensile and shear strengths attained through combinations of materials, work -hardening, and heat treatment.

immunize - Removing small particles of iron or grit from the surface of stainless steel by pickling in an acid solution.

impact test - Determines the energy absorbed in fracturing a test bar at high velocity; in tension, bending, or a notch test, creating multiaxial stresses.

jam nut - A nut thinner than a standard nut.

knurling - Producing a roughened surface by means of a specialized tool.

lead point - A blunt unthreaded point, usually 1/3" to 1/4" in length. Use as a finder in predrilled holes.

length - (headed fastener) The distance from the intersection of the largest diameter of the head with the bearing surface to the extreme point, measured in a line parallel to the axis of the fastener.

length of thread engagement - The distance between the extreme points of contact on the pitch cylinders or cones, measured parallel to the axis.

lock nut - (1) Prevailing torque type; resists relative bolt -nut movement with or without an axially applied load to the bolt -nut combination. (2) Free -running type; exhibits a locking ability when there is an axial load applied to the base of the nut. The "locking" action of the nut is accomplished by thread deformation, clamping, or adding non -metallic inserts.

Fastec Glossary of Terms

major diameter - A straight threads diameter of the coaxial cylinder which would pass through the crests of an external thread or the roots of an internal thread.

nail point - A sharp pyramidal point generally having a point angle of 30 to 45 degrees designed for piercing wood or other resilient material.

neck - (1) A portion of the body of fasteners near the head to perform a definite function, such as preventing rotation, etc., (2) A reduced diameter of a portion of the shank of a fastener which is required for design or manufacturing reasons.

needle point - A long cone point intended for piercing.

nut - A block or sleeve having an internal thread which assembles with the external thread on a bolt or other threaded part. It may fasten, adjust, transmit motion, or transmit power with a large mechanical advantage and non-reversible motion.

nut thickness - The overall distance from the top of the nut to the bearing surface, measured parallel to the axis of the nut.

oiled - Application of a corrosion retarding oil to a fastener.

pan head - A flat top rounded into cylindrical sides with a flat bearing surface. The recessed pan head has a rounded top.

passivating - Dissolving ferrous particles and surface impurities from stainless steel chemically and producing a passive film on the surface.

pickling - Removing surface oxides or impurities chemically or electro-chemically
pilot point - A cylindrical point to facilitate the alignment and starting of fasteners into holes at assembly.

pinch point - A short sharp cone point, usually having a point angle of 45 degrees normally limited to diameters of 1/4" or smaller and is applied to metal drive screws, and Type BP tapping screws.

plating - Applying a metallic deposit on the surface of the fastener.

plating build up - Disposition of more plating on edges or corners than on the other surfaces of the fastener.

point - The configuration of the end of the shank of a headed fastener or of each end of a headless fastener.

quality - The suitability of a fastener for the purpose for which it is intended. Not to be confused with precision or workmanship.

quench hardening - Hardening a ferrous alloy by austenitizing and then cooling rapidly enough so that some or all of the austenite transforms to martensite.

quenching - Rapid cooling.

recess depth - The distance measured parallel to the fastener axis from the intersection of the head surface with the maximum diameter of the recess to the bottom of the recess.

recess diameter - The diameter measured in a plane perpendicular to the axis of the fastener over the intersection of the outermost extremities of the recess with the head surface.

recess width - The distance measured in a plane perpendicular to the axis of the fastener across the intersection of the sides or wings of the recess with the head surface.

recess head - A head having a specially formed indentation centered on its top surface. Two common forms are the "Cross Recess" and "Clutch Recess".

ribbed neck - A style consisting of longitudinal ribs around the shank adjacent to the underside of the head.

rockwell hardness test - The measure of hardness by determining the depth of penetration of a penetrator into the specimen under certain fixed conditions of test. The penetrator may either be a steel ball or a diamond spheroconical. The hardness number is related to the depth of indentation and the higher the number the harder the material.

roll threading - Applying a thread by rolling the piece between two grooved die plates, one of which is in motion, or between two grooved circular rolls.

rolled point - Frequently produced by the cupping of the last 1 to 1 1/2 thread by the thread rolling pressure.
rolled thread - Produced by the action of a form tool which when pressed into the surface of a blank, displaces material radially.

SAE specifications - The standards developed by the Society of Automotive Engineers, Inc.

SAE standard screw threads - As revised in 1954, conforms with the Unified and American Standard (ASA B1.1 -1949).

screw - An externally threaded fastener.

sems - A preassembled screw and washer unit. The washer is retained free to rotate under the screw head by the rolled thread. These units expedite assembly, assure the presence of a washer, and are generally available in various combinations of head styles and washer types.

shank - That portion of a headed fastener which lies between the head and the extreme point.

shear strength - Is the stress required to produce fracture when impressed vertically upon the cross-section of a material. Expressed as psi.

slotted head - Has a slot centered across its top surface.

undercut head - Heads undercut to 70% of normal side height to afford greater length of thread on the screws.

underhead fillet - The fillet at the junction of the head and shank of a headed fastener.

washer - Usually a thin part with a central hole or partial slot. Used for insulation, lubrication, spanning of large clearance holes, and improved stress distribution, etc.

washer face - A circular boss on the bearing surface of a nut or bolt.

yield point - Is the stress necessary to produce an elongation under load of 0.50% of the specimen's original length. Expressed as psi.

yield strength - Is the stress at which a material exhibits a specified limiting set, commonly taken by the offset method as 0.20% of the specimen's original length. Expressed as psi.



DTEC ENGINECH is dedicated to catering to a varied customer base across numerous industries and areas. Our consistent emphasis on quality and innovation has garnered the confidence of prominent companies globally.



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