



FASTENERS

Technical Guide



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BOLTS, SET SCREWS



TYPES

XOX Bolt & Nut

Used very extensively in most industries e.g. Construction, Timber, General Engineering, Mines & Mills.

Flange

Often the underside of the flanged section is serrated. This seats into the fastening surface and prevents loosening.

Hexagon

Hexagon bolts are partially threaded. They are used with or without washers to fasten wood or to hold steel parts together.

Cup Square

Mushroom head bolts with a square neck under the head. Also known as 'Carriage Bolts'. Often used in wood. The square section is hammered into a drilled hole in wood. This prevents the bolt from turning when the nut is tightened.

Set Screw

Fully threaded hex head screw.

Countersunk Square Neck

Commonly known as "Plough bolts". Used with steel or timber where a flat Countersunk Finish is required on the fastened surface.

Countersunk Nib

A countersunk bolt with a nib on one side to prevent turning when tightening the fastener.

U-Bolt

Has a 'U' shaped shank with a thread on each end. Used to secure items to circular objects e.g. poles.

MATERIALS

- Steel - Mild Steel (MS - Grade 4.8)
- Steel - High Tensile (HT - Grade 8.8)
- Steel - High Tensile (HT - Grade 10.9)
- Steel - High Tensile (HT - Grade 12.9)
- Stainless Steel - (A2-304)
- Stainless Steel - (A4-316)

PLATING

- Zinc
- Yellow Zinc
- Black Japan
- Super Zinc
- Hot Dip Galvanised

THREADING

- Metric
- Metric Fine
- Metric Extra Fine
- Imperial

DIAMETERS

- M5 – M36 (off the shelf)
- M39 upwards
- (subject to availability)

TYPICAL APPLICATIONS

- Construction
- Timber
- General engineering
- Agricultural
- Mines & Mills



TYPES

Aluminium Rivet (AS Type)

Consists of an aluminium shell and steel stem. It is the most common of all rivets and used in applications to hold pieces together where no strength is required. Also known as POP® Rivets.

Steel Open Ended (SS Type)

Consists of a steel body / shell and a steel stem. Used in applications where a certain amount of strength is required.

Half Stainless Steel Rivet Open Ended (SSS Type)

Consists of a stainless steel body / shell (grade 304) and a steel stem. Used where corrosion resistance is required.

Full Stainless Steel Rivet Open Ended (FSS Type)

Consists of a stainless steel body / shell (grade 304) and a stainless steel stem. Used where high corrosive resistance is required.

Full Aluminium Rivet Open Ended

Consists of an aluminium body / shell and an aluminium stem. Used where strength is not required but corrosion resistance is essential.

Aluminium Large Flange Rivet Open Ended (ASLF Type)

Consists of an aluminium body / shell with a large flange diameter and a steel stem. Used in applications where a large bearing area is required.

Aluminium Countersunk Rivet Open Ended (ASC Type)

Consists of an aluminium body / shell, which is countersunk, and a steel stem. Used in applications where a flush finish is required.

Aluminium Grooved Rivet Open Ended (ASG Type)

Consists of an aluminium body / shell that is grooved and a steel stem. Used in blind holes where a strong pull out resistance is required.

Aluminium Peel Rivet Open Ended (PAS Type)

Consists of an aluminium body / shell and a steel stem. The rivet peels open into an application. Used in applications where a normal rivet would pull through.

Multigrip (ASM Type)

These rivets have a wider grip than standard blind rivets. The bulbing action of the multigrip ensures complete hole fill even in oversized, irregular or misaligned holes. High clamp up and high shear and tensile strength and positive stem locking. These rivets are also weatherproof and used where water resistance is required.

Sealed Rivet (ASS Type)

Used in applications where weatherproof or water resistance is required. Aluminium sealed with steel stem.

Coloured Epoxy Rivets (EPG Type)

Available in various colours (white, red, green, black, yellow, brown) and in certain diameters and lengths only.

Semi-Tubular (ST Type)

Solid type rivet with a hole in one end which is flared over when riveted.

Solid Rivets (SA Type)

Available in Aluminium and Steel where one side is deformed during riveting to clamp materials together.

TYPICAL APPLICATIONS

- Ladders
- Canopies
- Ducting
- Roofing
- Ventilation
- Steel Appliances
- Electrical
- Vehicle Bodies
- Marine



TYPES

Hexagon Nuts

Available in Mild Steel, High tensile, Stainless steel (Grade 304 & 316) and brass.

Nyloc Nuts

A hexagon nut that has a Nylon ring inserted in the top. When tightening occurs, the nylon ring locks onto the threads of the fasteners and prevents the nut from working itself loose.

Half Lock Nuts

A Hexagon nut, which is half the height of a normal nut.

Cleveloc Nuts

An all-metal Lock nut ideal for use in applications where heat is a problem and a Nyloc nut is unsuitable.

Square Pressed Nuts

Most commonly used with gutter bolts.

Dome Nuts

Used for a decorative finish.

Wing Nuts

Used for finger tightening.

Drive In Nuts

Commonly known as furniture nuts. Used in the manufacture of furniture.

Shear Nuts or Security Nuts

The Hex portion snaps off on tightening leaving the tapered section behind which is then very difficult to undo.

Spring Nuts

Used in Channels as a nut securing items like airconditioners to walls.

Caged nuts

Rivet nuts

Flange nuts

Stover

Weld nuts

Friction grip nuts

Clinch nuts

'T' nuts

Coupling nuts

Wheel nuts

Castle nuts

MATERIALS

- Steel - mild steel (MS - Class 6)
- Steel - high tensile (HT - Class 8)
- Steel - high tensile (HT - Class 10)
- Steel - high tensile (HT - Class 12)
- Stainless steel - (A2-304)
- Stainless steel - (A4-316)
- Brass

PLATING

- Zinc
- Yellow Zinc
- Black Japan
- Super Zinc
- Hot Dip Galvanised

THREADING

- Metric
- Metric Fine
- Metric Extra Fine
- Imperial

TYPICAL APPLICATIONS

- Light Engineering
- Heavy Engineering
- General Engineering
- Automotive
- Electrical
- Mining



TYPES

Machine Screw

Screws normally threaded to the head and used with a nut, generally for steel work and for joining light components and household appliances.

Chipboard Screw / Particle Board Screw

Generally available in countersunk and pan heads, zinc yellow passivated but other finishes also available.

Self-Drilling Screw (Tek Screw)

Generally used in roofing applications, otherwise applications where speed of assembly is required. No drilling or punching of holes is necessary as the screw drills its own holes and fixes in the process.

Coach Screw

Used with a plastic plug in place of Expansion Bolts.

Self Tapping

When driven into any material, it's sharp and spiraling sides can cut into the material providing a great hold. Various held styles available.

Gutter Bolt

Has a slotted head. It can be used for many DIY projects.

Dry Wall

It has a sharp point, ideal for attaching drywall to wood struts or metal struts.

Bin Screws

A specialised fastener used in the fruit bin industry.

Conformat

Turbo

Roofing

Top Speed

PT

Furniture

Anti theft

Hi-Low

Wood

Tap Tite

Decking

MATERIALS

- Steel - mild steel (MS - Grade 4.8)
- Brass
- Stainless steel - (A2-304)
- Stainless steel - (A4-316)

PLATING

- Zinc
- Yellow Zinc
- Black Japan
- Super Zinc
- Hot Dip Galvanised
- Brass
- Kalgard

THREADING

- Metric

TYPICAL APPLICATIONS

- Kitchen Furniture
- General Appliances
- Electrical
- Light Engineering
- Carpentry
- Partitioning
- Sheeting

SOCKET HEAD PRODUCTS



TYPES

Cap Screw

Fastened with an allen key. Typically made from Grade 12.9 steel.

Cap Screw CSK

Typically made from Grade 10.9 steel. Used to hold thin section metals together in applications that also require a neat smooth surface.

Low Head Cap Screw

Suitable for use in parts too thin for standard socket head cap screws and for applications with limited clearances.

Button Head Cap Screw

Ideally suited for use in material too thin to countersunk and also for non critical loading requiring heat-treated screws.

Shoulder Screw

Shoulder screws are actually hardened shafts with a knurled head and a threaded portion.

Socket Set Screw

Commonly known as Grub Screws

MATERIALS

- Steel - high tensile (HT - Grade 10.9)
- Steel - high tensile (HT - Grade 12.9)
- Stainless steel - (A2-304)
- Stainless steel - (A4-316)

SPECS

- DIN 912
- DIN 7991
- DIN 916

STANDARD SIZES

- M2-M36

TYPICAL APPLICATIONS

- Electrical
- Automotive
- Construction

PLATING

- Zinc
- Yellow Zinc
- Black Japan
- Super Zinc
- Cadmium

- DIN 7380
- DIN 7379

HOLO-KROME

- High quality socket head fasteners for critical applications, when failure is not an option.
- Full traceability on every fastener.

THREADING

- Metric
- Imperial

- DIN 7984
- DIN 6912



TYPES

Flat Washers

Available in different standards from BS 4320 , Din 125 A and B, Din 126. Suitable for various applications where a washer is required, also known as black cut, or bright flat washers.

Fender Washers

Also known as Body washers, and used where a large surface area is required instead of the standard washer. It has a larger outer diameter than a standard washer.

Spring Washers

Made to Din 7980 or Din 127B specifications, this is typically a flat type washer or square type washer which is slit open, and is used where minimal vibration occurs to prevent the fastener from loosening.

Square Taper Washers

Typically used in the construction industry, where the washer facilitates surfaces which are not square to the bolts surface.

Thru Hardened Washers

These washers are used where a hard fastening surface is required, where no distortion of the washer will occur in assembly. These are made to specific hardness ratings.

Bonded Washers

These are typically used in the roofing industry and are used as a seal under a TEK Screw or nail and are available in EPDM and EVA materials and generally in two diameters and outer diameters.

Nu Way Seal

Typically used under a roofing screw that is hammered into a wooden beam.

Rivet Washer

Used when placing 3.2, 4.0, 4.8 and 6.4mm rivets.

Serrated Washers (Internal and External)

Starlock Washers (Internal and External)

Disc Spring Washers

Fibre Washers

Nord-Lock Washers (See Nord-Lock Page 11)

Various other washer types are available to suit different applications.

PLATING

- Zinc
- Super Zinc
- Kalgard
- Yellow Zinc
- Nickel
- Olive Drab
- Black Japan
- Brass
- Hot Dipped Galvanised

MATERIALS

- Steel
- Nylon
- Brass
- Stainless Steel (304 & 316)

TYPICAL APPLICATIONS

- Construction
- Automotive
- General Engineering
- Light Engineering
- Heavy Engineering
- Mining
- Steel Mills

THREADED ROD



TYPES

Engineering Stud

Threaded on each end with a shank in the middle.

Foundation bolts

Normally embedded into concrete, allowing the attachment of a steel object.

Holding bolt

Normally embedded into concrete, allowing the attachment of a steel object.

L-Bolt

Normally embedded into concrete, allowing the attachment of a steel object.

Running stud

Essentially a short threaded rod.

Threaded rod

Used in thatching, ducting and signage, available in 1m or 3m lengths.

MATERIALS

- Steel - High Tensile
- Steel - Mild steel
- Brass
- Stainless steel
- Aluminium

GRADES

- 8.8
- B7
- A2-304
- 4.6 / 4.8
- EN8

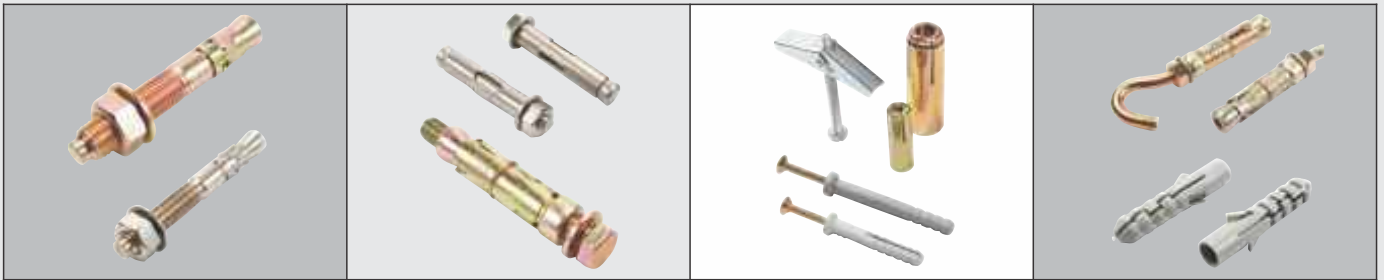
PLATINGS

- Zinc
- Yellow Zinc
- Super Zinc
- Hot Dip Galvanised

TYPICAL APPLICATIONS

- Construction
- Refrigeration
- Airconditioning
- Ducting
- Strut
- General Engineering





TYPES

Shield Anchors

Applications: Steelwork, garage doors, security gates and grilles, machinery and many other applications. Commonly known as a Rawlbolt. For use in brick, concrete or stone.

Sleeve Anchors

Applications: Stadium seating, shelving, garage doors, signs, TV aerials and satellite dishes. For use in brick or concrete.

Wedge Anchors

Applications: Balustrades, handrails, shelving, structural steel and machinery. For use in Concrete.

Drop In Anchors

Applications: Suspended ceilings, air conditioner ducting and piping. For use in concrete.

Nail In Anchors

An ideal through fixing for reasonably light components such as timber, frames, shelves and cupboards. For use in brick or concrete.

Chemical

Ideally suited for high load applications, used with a capsule to provide extra strength.

Screw Bolts

Exceptional strength, quick and easy to install. It will cut its own thread. High load capacity. Screw bolts are suitable for a wide range of applications.

Eye shield

Hollow wall

Jetting – Nylon

Wedge

Hook Shield

Spring Toggle

PLATINGS

- Zinc
- Yellow Zinc

MATERIALS

- Mild Steel
- Stainless Steel
- Nylon
- Plastic

TYPICAL APPLICATIONS

- Construction
- Carpentry
- Assembly of Various Applications onto Brickwork, Concrete etc.



TYPES

Abrasives - A wide range of: (Klingspor / Pferd)

- Belts
- Fibre Discs
- Sheets
- Abrasive Mops
- Cut Off Wheels
- Rolls
- Strips
- Discs
- Grinding Discs

Drill Bits / Cutting Tools (Somta)

- Straight Shanks Drills
- Sockets and Sleeves
- Countersinks
- Shank Cutters
- Taps and Dies
- Custom Tools and surface coatings
- Morse Taper Drills
- Reamers
- Counterbores
- Bore Cutters
- Solid Carbide Tooling

Dejond

High quality threaded inserts - Tubtara's, manufactured in Belgium. Available in different head styles, materials and for various thickness, open end and sealed types.

Recoil

Range of thread repair inserts and thread repair kits, used in all applications. High quality wire thread inserts that repair and strengthen threads giving longer life to most applications. Available in free running, locking, strip fed and tangles.

Grease Nipples

Available in most thread types and angles.

Studsaver and Rethread

Unique tools, incorporating floating blades which can adjust to any thread pitch and diameter, in order to quickly and easily repair damaged male or female threads.

Conepoint Screws or Bolts

Used in applications where a point is required on the bolt end.

Thumbscrews

Used in applications such as window stays.

Splice Clamps

Used in the Strut Industry.

Basin Fixings

Used for securing basins to walls, consists of a loose nut and hangerbolt.

Bath and Basin Chain

Brass Nickle Plated chain with Hook (bath) and Stay (basin) fixings attached.

U-Bolts / V-Bolts

Made to customer requirements for a variety of applications. Also available are J-Bolts and L Bolts.

Many other specials including automotive products are made according to customer specifications and requirements.





FEATURES

- Specialised fasteners for extreme conditions.
- Corrosion resistant.
- Customised fasteners available on request.
- Accredited to leading international standards.
- Over 300 alloys available.

TYPES

- Nuts
- Bolts
- Studbolts
- Washers

ALLOYS

- Hastelloy®
- C-276
- C-22
- C-4
- Monel®
- 400
- K-500
- 2.4605
- Alloy 69
- Hastelloy C-2000®
- Inconel® 686
- Lloy 31

STANDARDS

- DIN EN
- ISO
- BS
- ANSI

- Kuprodur
- Zirkonium
- Aluminium Bronze
- CuNi90/10, 70/30
- Titan
- A3-50
- A4-70
- A5-80
- 1.4529 Alloy 926
- 1.4539 Alloy 904L
- 254 SMO®
- 1.4462 S31803

MANUFACTURING

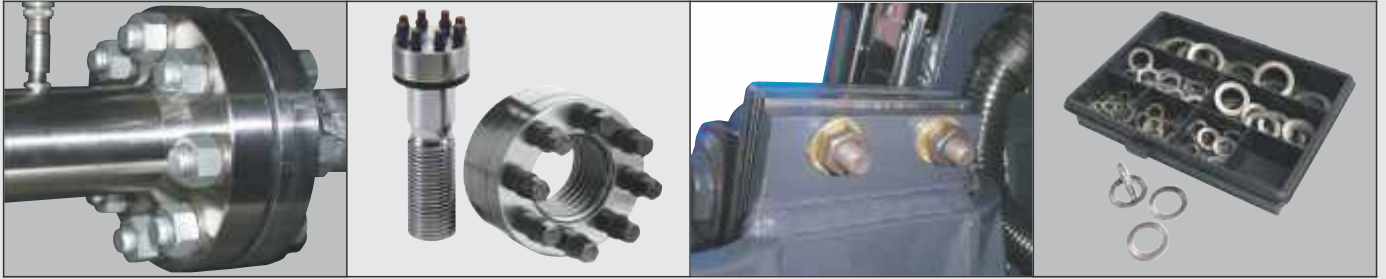
- CNC machining Ø3 - 150mmx2000mm
- Swiss turn machining Ø3-36mm
- Thread rolling up to M80 (3")
- Hot forging 4 - 56mm diameter

- SAF2205
- Ferralium 255
- Zeron 100
- 1.4501
- Inconel® 718
- Inconel® 601/617/625
- 253MA®
- Inconel® X-750
- Incoloy® 800/800H/800HT
- Nimonic® 80A
- 1.4980 Grade 660
- Approved for use in nuclear plants KTA1401

TYPICAL APPLICATIONS

- Power & nuclear plants
- Petrochemical & pharmaceutical plants
- Mining
- Mills
- Environmental engineering

- Civil & mechanical construction
- Dairy & food processing
- Pump manufacturing



NORD-LOCK washers have cams on one side with a greater rise than the pitch of the bolt. In addition they have radial teeth on the opposite side. The washers are installed in pairs, cam face to cam face. When the bolt and or nut is tightened, the teeth grip and seat the mating surfaces. The tension created makes the bolt / nut self-locking.

FEATURES

- Resists loosening caused by vibration and dynamic loads.
- Ease of assembly and disassembly.
- Locking function is not lost by lubrication.
- Positive locking at low or high pre-load levels.
- Same temperature characteristics as standard bolt / nut.
- Minimum surface marring or scratching.
- Reusable.
- Achieves maximum safety when locking fasteners.
- Can be used on standard or high grade bolts.

MATERIAL

- Steel
- Stainless Steel

ASSEMBLY OPTIONS

- Tapped holes
- Counter-bored holes
- Can be used in combination with flange nut / bolt for larger holes
- Cannot be used with a washer that is not locked in place

NORD-LOCK WHEEL NUT

- M22x1.5
- Prevents loosening of wheel nuts on trucks, trailers, buses, tippers & earthmoving vehicles
- Based on the unique Nord-Lock wedge-locking technology, which uses tension instead of friction to secure the bolted joint. When the wheel nut is tightened, the teeth of the Nord-Lock washers grip and lock the mating surfaces, allowing movement only across the cam faces. Any rotation of the wheel nut is blocked by the wedge effect of the cams. Class 10 & Delta Protekt Coating up to 600hrs salt spray. Can be safely re-used a number of times.

GTP600 - GRAPHITE LUBRICANT

High quality and superior to traditional lubricants. When tightening bolted joints. It guarantees low & uniform friction, increasing the bolt capacity.

TYPICAL APPLICATIONS

- Automotive
- Electrical
- Railways
- Turbines
- Windfarms
- Steel Mills
- Sugar Mills
- Vibrating Screens



GEARWRENCH FEATURES

- Ratcheting box-end needs as little as 5° movement.
- Fully hardened metal construction.
- Ratcheting box-end has a surface drive configuration that virtually eliminates rounding.
- Available in SAE and metric sets and individuals.

VARIATIONS

- Standard combination
- Half moon ('C' spanner)
- X-Beam
- Reversible
- Double box
- XL
- Flex head
- E-Torx
- XL Flex
- Stubby
- S-Reversible

SPANNERS*

- Spanners
- Slogging Spanners
- Hook Spanners
- Combination Spanners
- Ring Spanners
- Crowfoot Spanners
- Flare Nut Spanners
- Ratcheting Type Spanners

SOCKETS*

- Socket Sets
- Individual sockets
- Accessories

SCREWDRIVERS*

- Screwdriver Sets
- Stubbys / T Handles
- Electricians
- Individual Bits
- Nut Drivers
- Flexible shafts
- Ratcheting

PLIERS*

- Circlip (Internal & External)
- Angled
- Pincers
- Electricians
- Combination
- Side Cutters
- Long Nose
- Universal Pliers
- Flat Nose / Round Nose
- Lock Grip Pliers

PIPE WRENCHES*

- Pipe Wrenches
- Slogging
- Chain
- Swedish Pattern
- American Pattern
- Stillson
- Tin Snips

HAMMERS*

- Pall Pein
- Rubber Mallets
- Recoil Free

TOOLBOXES / KITS*

- Tool Assortment boxes
- Tool Trolleys
- Electricians Kits
- Tool cabinets
- Display Boxes
- Mechanics Tool kits
- Tool Chests / Trunks
- Modular assortments
- Artisans Tool Kits
- Tool Panels
- Apprentice Kits
- Automotive Electricians Kits

OTHER TOOLING*

- Verniers
- Chisels
- Parallel Vices
- Saws
- Utility Knives
- Taps and Dies
- Measuring Tapes
- Bearing Pullers

BMG Stocks a wide range of other tooling not listed here and accessories.

We are distributors of the well known brands and direct importers of specialised tools for various applications.

TYPICAL APPLICATIONS

- Counter Areas
- Speed
- General Mechanical Equipment
- Automotive



TYPES

Magna bulb®

For assembly of thick plate onto thinner backing surfaces.

Auto-Bulb®

Similar to Magna Bulb®. Ease of Access.

BOM®

Blind structural fastener ¼ up to ¾ diameters for high strength structural applications.

Floortight®

Superior performance over conventional flooring fasteners. Rivet will countersink into floorboard.

Magna-Grip®

Consistent, high clamp force two piece fastener for applications that require various thicknesses to be clamped together.

C6L/C120L®

High tensile strength and vibration resistant two piece fastener.

Hucktainer Plus®

Two piece fastener specifically for joining composite board to metal frame.

C50L®

Original Huckbolt. Two piece pin and collar.

Huck-Fit®

Heavy duty two piece fastener with unique lock groove form.

Magnalok®

High strength structural rivet with an internal lock.

Bobtail®

Two piece Lockbolt fastener with quicker installation time than current Huck systems with no pin tail break. Re-usable pin, lighter tooling. Quick assembly times.

BENEFITS

- Will not loosen even under extreme vibration.
- Maintenance free joints - no need to torque or re-torque.
- Lower lifetime total cost of joint - high shear and tensile strengths for increased fatigue life of the joint.
- High speed, easy to install systems can reduce production time by 75%.
- Improve your employees health and safety - remove welding and vibration installation processes.
- Tamperproof - once installed cannot be removed without specialist tooling.

TYPICAL APPLICATIONS

- Automotive
- Transport
- Manufacturing
- Ship Building
- Power Generation
- Medical
- Electronics



LOCK BOLT PINS AND COLLARS BENEFITS

- Vibration resistant.
- Provides high shear and tensile strength.
- Tamper proof.
- Consistent controlled clamp up.
- No need to re-torque.
- Fast and easy installation.
- Replaces bolted and welded joints.
- Fully compatible with existing tooling.

DIAMETERS

- 13mm
- 16mm
- 19mm
- 22mm

PLATINGS

- Plain & Zinc

COLLAR TYPES

- Standard
- Flanged

TYPICAL APPLICATIONS

- Railway
- Mining
- Sugar mills
- Construction
- Heavy engineering



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