



## Torque Information

Pro-Bolt offer a variety of products in three different materials, each offering a different level of strength suitable for different applications. Pro-Bolt Limited strongly recommends that you seek the advice of a professional when fitting any bolts. You are entirely responsible for ensuring any bolts are correctly fitted and Pro-Bolt Limited shall not be liable for any damage or harm that is as a result of you having fitted the bolt without having sought such advice or for any incorrectly fitted bolt.

When fitting any Pro-Bolt bolt kit or accessory, it is essential to check your Pro-Bolt part with your manufacturer's original. We Supply a Pro-Bolt Thread Gauge to assist with this. When comparing bolts, you must check the thread diameter, length of bolt and thread pitch, and when comparing other items, check that dimensions are the same for all contact parts.

Our accessories are matched to specific bike models by premeasuring those bikes – however, it is possible that manufacturers apply changes mid model without our knowledge, and we therefore require that you exercise due care prior to fitting. If you are not confident about fitting our products yourself, we recommend that you take our products to a professional.

When fitting a bolt kit replace one bolt at a time - with an identical length bolt (lubricated where required) follow our torque guides for the relevant material. Bolt kits in contact with the screen or fairing contain plastic washers which should be used under the head of all bolts to prevent scratching paintwork/plastic. In our fairing kits you will also find a number of collars, where your original bolts have shoulders, these are used to replicate the collar allowing the bolt to locate into the fairing effectively.

**Please adhere to the following guide at all times:**

### Aluminium





**Do not use aluminium bolts in any stress areas** e.g. Brake Caliper Fixings, Suspension Mounts, Footrest Hangers, Grab Rails etc.

**Aluminium bolts can be used on:** Engine Casings, Fairings, Screens, Fuel Caps, Number Plates, Heel Guards, Chain Guards etc. Always apply a suitable lubricant on threads. **Do not overtighten – aluminium is a soft material so to prevent damage, observe the following torque guide.**

**Sprocket Nut Safety:** Aluminum Sprocket Nuts are manufactured to allow a torque of 33 ft/lbs or 44Nm. When fitting, wrap with a thin, tough tape such as Teflon to prevent scratching. We recommend applying a medium strength Threadlock.

**Oil Filler Caps Safety:** Oil Filler caps are supplied with an 'O' ring, which must be used to achieve an airtight seal. Test to ensure oil is not leaking. If the seal is not airtight, DO NOT USE, as oil leaking onto areas such as the rear tyre may be dangerous.

**Reservoir Cap Safety:** Reservoir fluid is corrosive; care must be taken to ensure fluid is not spilt on hands or any areas of the bike. If spilt wash affected area with plenty of soapy water immediately. Reservoir caps must be fitted with the use of the original membrane. Identical length replacement bolts are provided where necessary – these should be hand tightened to achieve an airtight seal, which should be checked after a short test ride to ensure fluid does not leak. DO NOT USE if any leakage has occurred as this may affect the performance of the brake/clutch. Contact Pro-Bolt directly if any problems are encountered.

**Yoke Nuts:** Ascertain manufacturer's torque guide, then reduce values by 30%.

**Pre-Load Adjusters:** Pre-Load adjusters are for use with standard fittings. If used in conjunction with a steering damper, it is essential to check that the steering is not affected. Do not use if any contact is detected.

Maximum Torque Guide - Aluminium in Nm						
Thread Diameter	3mm	4mm	5mm	6mm	8mm	10mm
Flanged Hex Head Bolt	n/a	n/a	6.00	8.00	12.00	20.00
Socket Cap Bolt	1.50	3.50	6.00	6.00	10.00	n/a
Dome Head / Fairing Bolt	n/a	2.50	4.00	5.00	8.50	16.00
Countersunk Bolt	n/a	2.00	2.50	5.00	8.00	n/a

## Stainless Steel



Please be aware that not all stainless steel is suitable for stress areas.

However, Pro-Bolt 316 stainless steel is suitable for Engine Casings, Fairings, Screens, Front Axle Pinch, Caliper Pinch Bolts, Caliper Mount Bolts, Footrest Hanger Bolts, Clip-On Handle Bar Bolts, Brake/Clutch Pinch Perch, Top/Bottom Yoke Clamp Bolts, Sprocket Nuts, Disc Bolts etc.

Maximum Torque Guide - Stainless Steel in Nm								
Thread Diameter	3mm	4mm	5mm	6mm	8mm	10mm	12mm	14mm
Flanged Hex Head Bolt	2.00	5.00	12.00	15.00	35.00	38.00	97.50	155.20
Socket Cap Bolt	1.73	4.00	10.00	14.00	25.00	38.00	n/a	n/a
Dome Head / Fairing Bolt	n/a	3.50	5.00	11.00	16.00	26.00	n/a	n/a
Countersunk Bolt	n/a	3.50	5.00	8.00	15.00	20.00	n/a	n/a

## Titanium



Before you start work on your machine ensure the bike is secure, positioned on a paddock stand where necessary. Where our products are used in safety critical areas it is essential to use the correct torque and fit with care.

When fitting we recommend:

- When fitting it is essential to match the Pro-Bolt with the bolt you are replacing. The thread, pitch and length should be identical. Should any differences occur, please contact Pro-Bolt prior to fitting. This is particularly important in areas such as Disc Bolts and Brake Caliper Bolts.
- We recommend the use of a T-Bar or torque wrench to achieve an even purchase.
- Select appropriate antiseize lubricant or thread lock.
- Torque for Flanged Hex Head and Tapered Socket Cap Bolts - use torque values specified by your equipment manufacturer.
- Torque for Dome Head and Countersunk Bolts - use the following torque guide.
- After fitting new parts we recommend you take your motorcycle for a short test ride, riding with care. Examine parts after the test ride to ensure all parts are secure. Should you have any queries, please contact Pro-Bolt directly before riding your bike.

**Disc Rotor Bolts:** We recommend the use of a medium strength Threadlock be used with both Titanium & Stainless Steel Disc Rotor Bolts. We replicate the dimensions of manufacturer's original parts and this often results in bolts with a low head profile, therefore a small and shallow drive. We recommend the use of a T-Bar or torque wrench to achieve an even purchase. We recommend you use torque values specified below:

- For bolts with a 6mm Thread Diameter: 20Nm
- For bolts with a 8mm Thread Diameter: 22Nm



- For bolts with a 10mm Thread Diameter: 25Nm

### Cam Cover Bolt Fitment

**Top Cam Cover Bolts:** Remove and fit one bolt at a time. To avoid a potential snapping of the thread, ensure an even purchase when fitting. Use manufacturer's original seals in conjunction with seal supplied by Pro-Bolt. Torque to manufacturers recommended guide.

**Side Cam Cover Bolts:** Remove and fit one bolt at a time. Replace crush washers with new un-used crush washers and torque to manufacturers recommended guide.

### Torque Guide for Fasteners in General Usage

For both Titanium & Stainless Steel where possible use the same torque as manufacturer's originals. For fasteners in safety applications on a Motorcycle, use your manufacturers torque guide when fitting Flanged Hex Head or Tapered Socket Cap fasteners. For fasteners in other applications you can refer to the table below for lubricated threads.

Maximum Torque Guide - Titanium in Nm								
Thread Diameter	3mm	4mm	5mm	6mm	8mm	10mm	12mm	14mm
Flanged Hex Head Bolt	2.00	5.00	12.00	15.00	35.00	38.00	97.50	155.20
Socket Cap Bolt	1.73	4.00	10.00	14.00	25.00	38.00	n/a	n/a
Dome Head / Fairing Bolt	n/a	3.50	5.00	11.00	16.00	26.00	n/a	n/a
Countersunk Bolt	n/a	3.50	5.00	8.00	15.00	20.00	n/a	n/a



# ALL YOU NEED TO KNOW ABOUT BOLTS

## IDEAL BOLT MEASURING TOOLS

For precision measuring we would recommend the use of Digital Vernier Callipers and a Thread Gauge to measure thread pitch. For standard bolts in the range of M5 – M12 we offer our own Pro-bolt Measuring Gauge – see our website for details.

## IMPORTANT

If you print out this pdf, make sure you print it at full size - do this by setting 'Page Scaling' to 'None' in the print option window

## MEASURING A FASTENER

### Shank Diameter

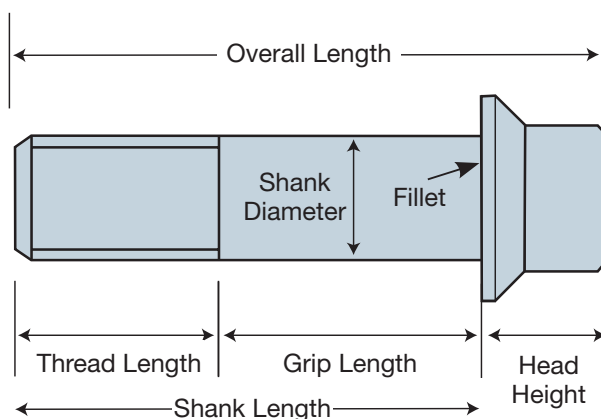
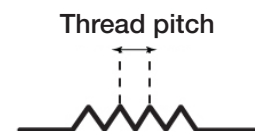
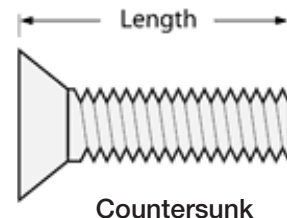
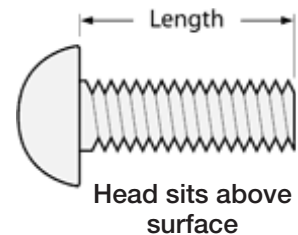
Also called Major diameter. The diameter of a bolt is the Shank diameter, expressed in millimetres for Metric bolts. Because this is approximately the same as the Major or Thread diameter the thread diameter measurement can be used for fully threaded bolts.

### Shank Length

Fastener length is measured from where the material surface is assumed to be, to the end of the fastener. For fasteners where the head usually sits above the surface, the measurement is from directly under the head to the end of the fastener. For fasteners that are designed to be countersunk, the measurement is made from the point on the head where the surface of the material is, to the end of the fastener.

### Thread Pitch

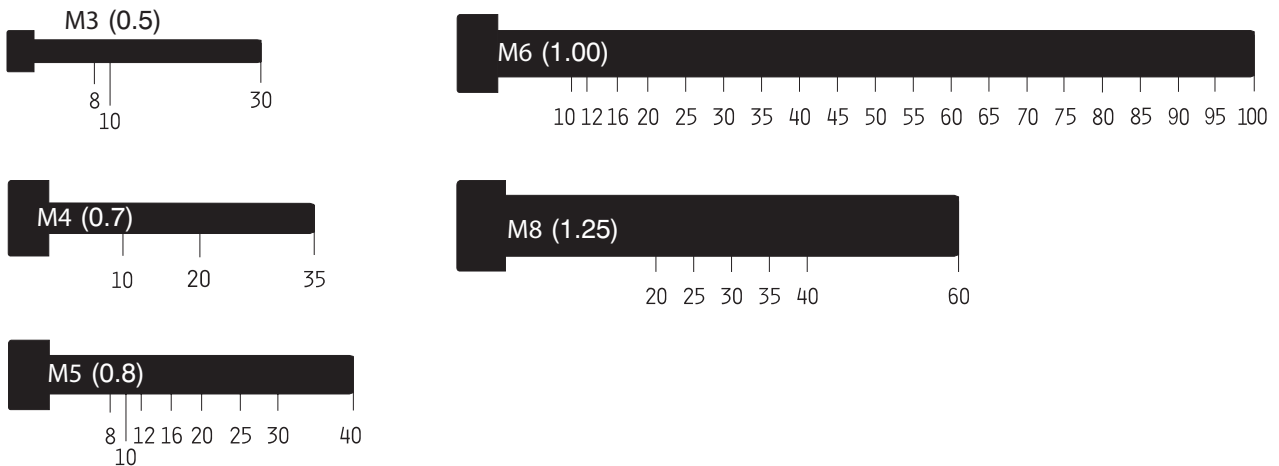
Metric fasteners are specified with a thread pitch instead of a thread count. The thread pitch is the distance between threads expressed in millimeters (measured along the length of the fastener). For example a thread pitch of 1.5 means that the distance between one thread and the next is 1.5mm. In general smaller fasteners have finer thread so they have lower thread pitch.



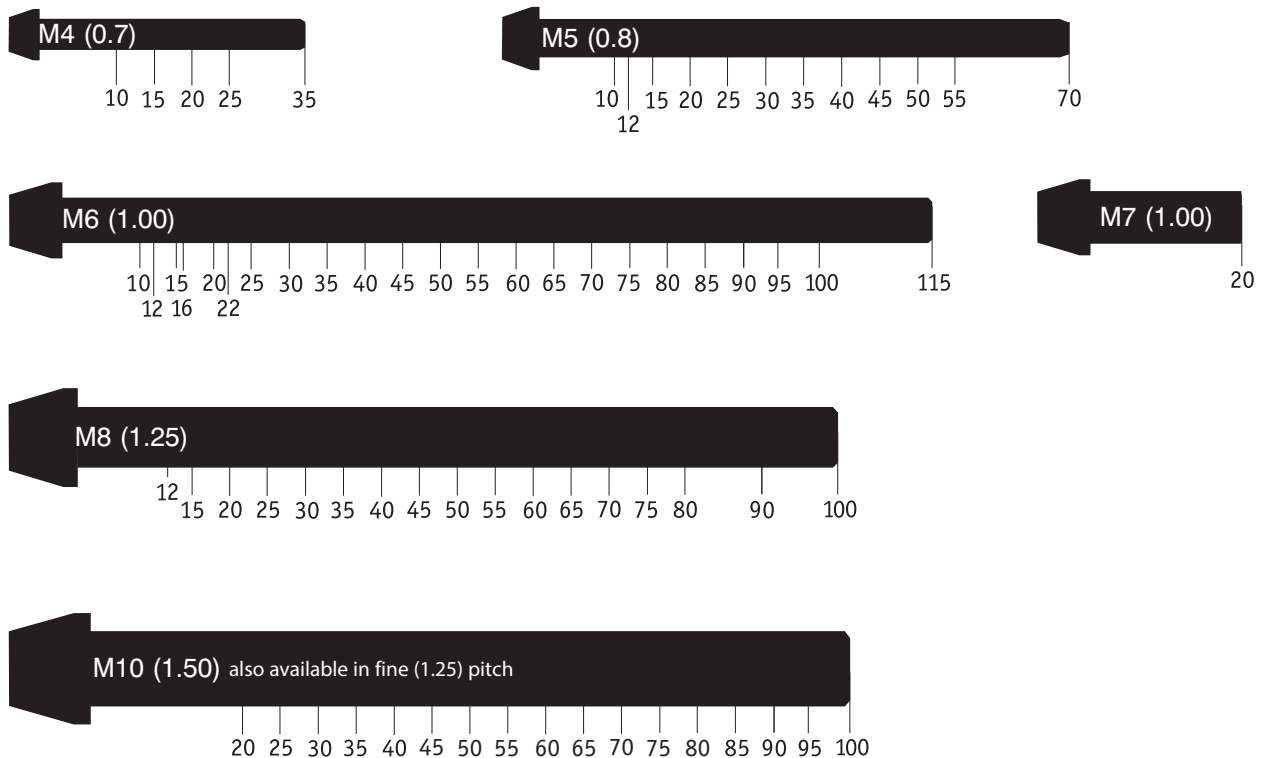


**Note: Not all sizes are available in ALL materials, please refer to relevant material section.**

### Standard Allen Key Socket Cap Bolts

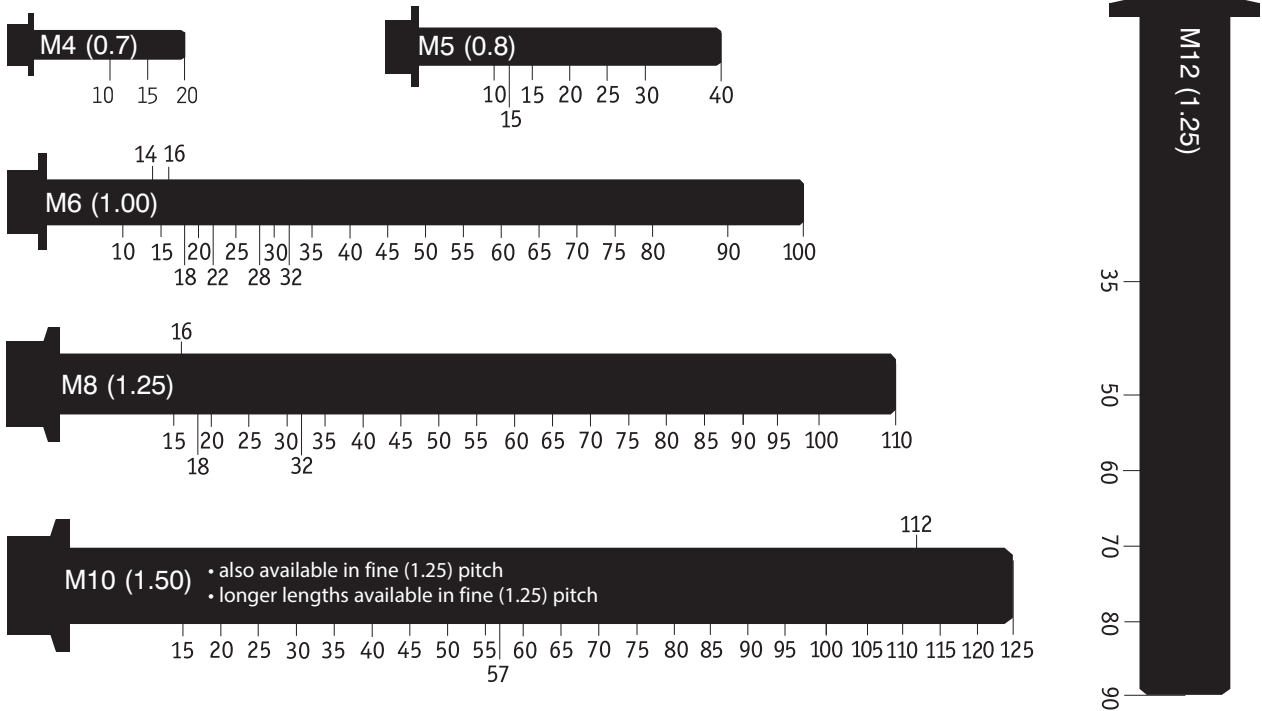


### Tapered Socket Cap Bolts

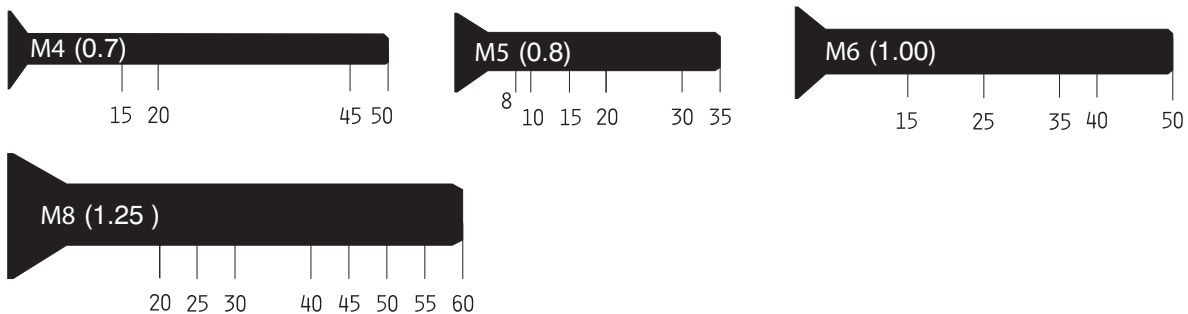




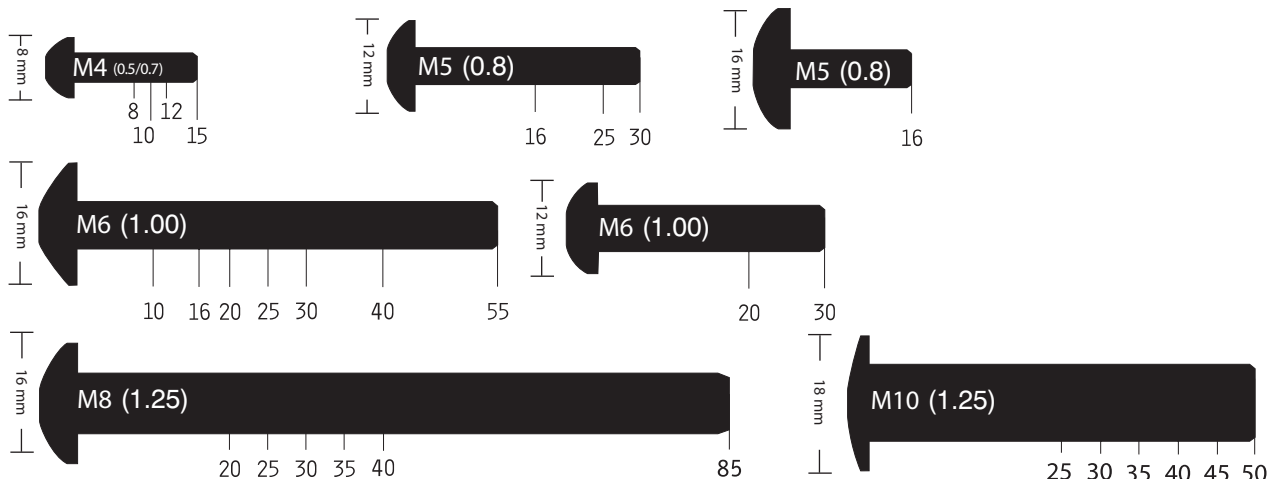
## Flanged Hex Head Bolts



## Countersunk Bolts



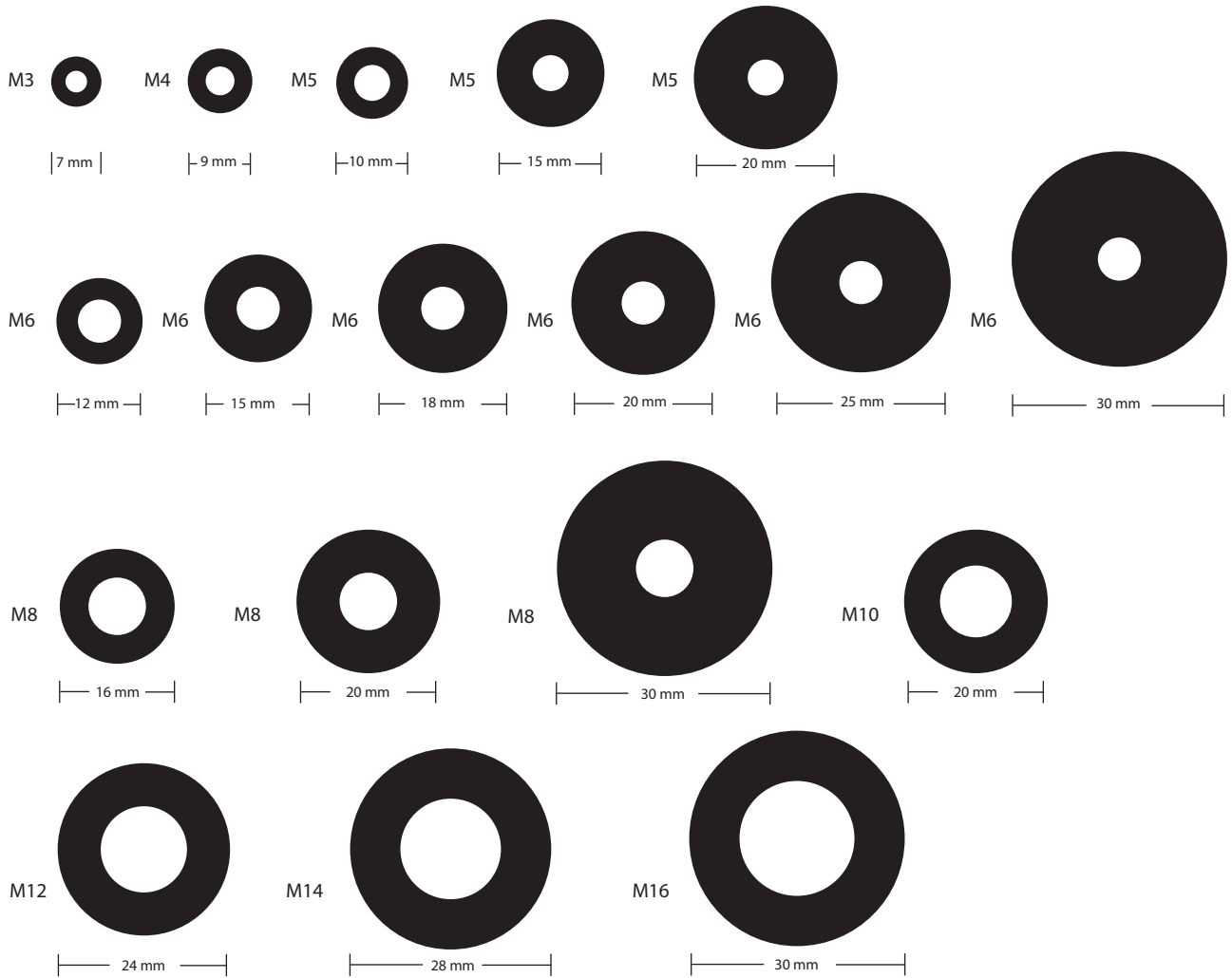
## Dome Head/Fairing Bolts



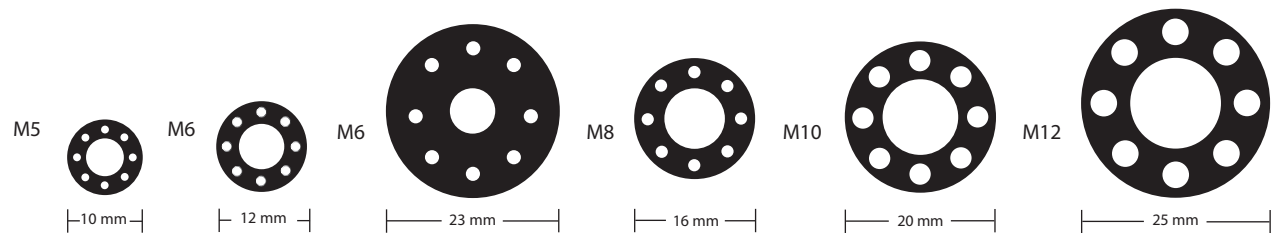


**Note: Not all sizes are available in ALL materials, please refer to relevant material section.**

## Flat Washers



## Drilled Washers

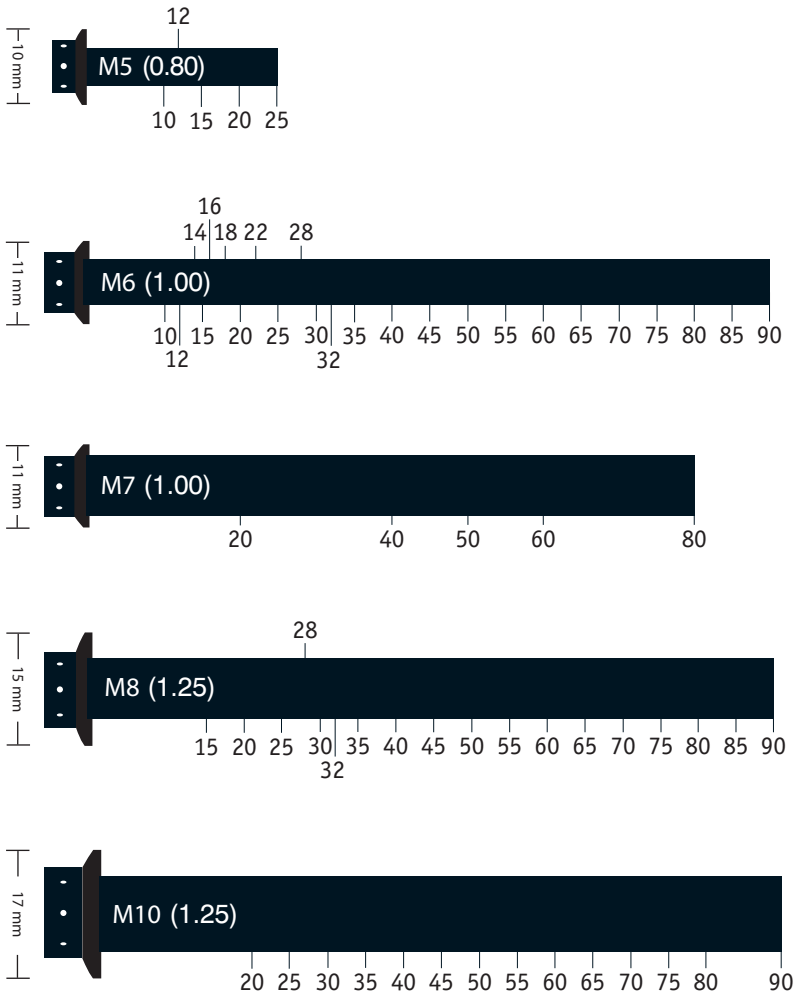


## Countersunk Bodywork Washers





## Race Spec Bolts



## Race Spec Bodywork Bolts

