

# BBB Anchor Chain; is it the Best Choice for Cruising Boats?

**BBB anchor chain - or 3B as it's also known - is certainly a good choice of anchor chain because it's calibrated for use with most modern anchor windlass gypsies (aka 'wildcats'). It may be the most commonly used anchor chain on cruising boats, but it's not the only choice...**

It's heavy stuff, anchor chain, which is exactly what you want when it's holding your anchor firmly on the seabed - but exactly what you don't want when it's stowed in its locker in the bow of the boat.

Here it will increase the boats tendency to pitch, affecting both crew comfort and boat performance - particularly so for today's lighter displacement cruising boats.

Fortunately you don't have to trade strength for weight. Some types of anchor chain are both stronger *and* lighter than others.

Let's take a look at the three basic types - *Proof Coil*, *BBB* and *High-Test anchor chain*...

## Proof Coil Anchor Chain

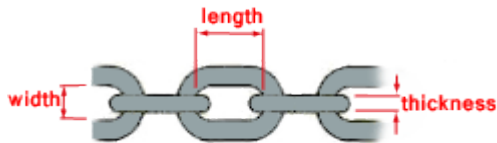
All welded steel chain is categorized into one of several grades.

*Proof Coil* is Grade 30, indicating that it's manufactured from low carbon steel - the lowest grade for anchor chain.

*Proof Coil* chain is **not calibrated**, and is therefore unsuitable for use with anchor windlasses.

However, it's perfectly suitable for rope/chain anchor rodes for small boats - providing you're happy to haul it in by hand.

### Proof Coil Anchor Chain



Size	L	W	t
1/4"	1.02"	0.50"	0.275"

5/16"	1.15"	0.49"	0.330"
3/8"	1.45"	0.60"	0.397"
1/2"	1.56"	0.81"	0.520"

## BBB Anchor Chain

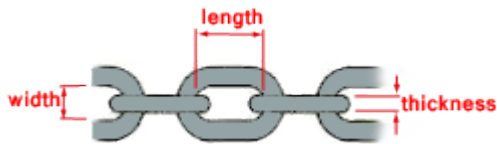
Like *Proof Coil*, *BBB anchor chain* is manufactured from low carbon steel, but there are two differences that make it more suitable for use as anchor chain:~

- *BBB chain* is calibrated for use on anchor windlasses;
- *BBB chain* has shorter links than *Proof Coil chain*.

It will usually have been hot dip galvanised during the manufacturing process to improve its resistance to corrosion, although electro zinc plating is sometimes offered as an alternative.

It's marginally stronger than *Proof Coil* due to its slightly greater thickness.

### BBB Anchor Chain



Size	L	W	t
1/4"	0.87"	0.43"	0.281"
5/16"	1.00"	0.50"	0.343"
3/8"	1.09"	0.62"	0.406"
1/2"	1.34"	0.75"	0.531"

## High-Test Anchor Chain

*High-Test Anchor Chain* is much stronger than *BBB chain*, and is also slightly lighter.

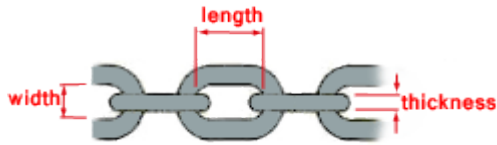
It achieves this through the use of a higher grade steel with increased carbon and manganese content.

*High-Test Anchor Chain* is produced in 3 grades:~

- Grade 40
- Grade 43
- Grade 70

Grade 40 has been widely replaced by Grade 43, the sole difference between the two being the shorter links of the Grade 43, which makes it more flexible and ideal for use with anchor windlasses.

Grade 43 High-Test Anchor Chain



Size	L	W	t
1/4"	1.02"	0.50"	0.274"
5/16"	1.15"	0.49"	0.330"
3/8"	1.30"	0.60"	0.397"
1/2"	1.56"	0.81"	0.520"

Grade 70 Anchor Chain is 20% stronger than Grade 43 chain.

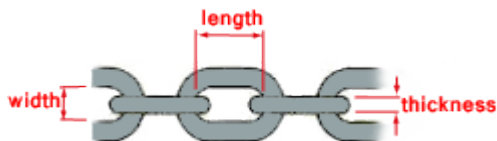
It's manufactured from the same steel as grades 40 and 43, but is then heat treated which gives it its increased strength.

It's the strongest, weight for weight, of all anchor chains.

However, there is a risk that re-galvanising it will put it through a further heat cycle which could weaken it.

But re-galvanising any chain isn't always successful and is seldom cost effective.

Grade 70 High-Test Anchor Chain



Size	L	W	t
1/4"	1.24"	0.46"	0.274"

5/16"	1.12"	0.48"	0.334"
3/8"	1.30"	0.60"	0.392"
1/2"	1.56"	0.81"	0.510"



Not much load on the 5/8" BBB Anchor Chain on this Ferrocement Sailboat  
3Save

### Fascinating stuff, but what does it all mean?

The meat of this article is set out in the table below, which shows the weight and strength of the three main types of anchor chain currently in use.

Let's say we've got a 40ft ocean cruising boat with 200ft of worn-out 3/8" BBB anchor chain in the chain locker. What do we replace it with?

1. We could simply replace it with similar chain, or
2. Replace it with 200ft of High-Test Grade 43 or Grade 70 chain of the same size, benefiting from the increased strength and resistance to abrasion of the High Test anchor chain, or
3. Replace it with the same length of High-Test Grade 43 or Grade 70 chain of a reduced sized, whilst maintaining the strength of the chain whilst minimising the weight of the chain stowed in the chain locker, or
4. Replace it with an increased length of High-Test Grade 43 or Grade 70 chain of a reduced sized, without increasing the total weight of the chain stowed in the anchor locker.

<b>BBB</b>	<b>Chain size:</b>
	<b>Wt/100ft:</b>
	<b>SWL:</b>

**Grade 43**

Wt/100ft:

SWL:

**Grade 70**

Wt/100ft:

SWL:

**1/4"**

72 lbs

1,325 lbs

69 lbs

2,600 lbs

74 lbs

3,150 lbs

**5/16"**

113 lbs

1,950 lbs

100 lbs

3,900 lbs

103 lbs

4,700 lbs

**3/8"**

165 lbs

2,750 lbs

145 lbs

5,400 lbs

145 lbs

6,600 lbs

**1/2"**

272 lbs

4,750 lbs

234 lbs

9,200 lbs

264 lbs

11,300 lbs

## So is BBB Anchor Chain the Best Choice?

Looking at the table above you might be persuaded by the increased strength of high-test grade 43 and grade 70 anchor chains to decrease the weight of the chain stowed in your anchor locker, or alternatively carry more of it - both without sacrificing strength. (see points 3 and 4 above)

In either of these two scenarios, **BBB isn't the best choice** - Grade 43 or 70 is.

But when at anchor, the weight of chain suspended in catenary contributes significantly to overall security, which would seem to give BBB anchor chain the edge over its stronger, but lighter, cousins. So unless you want to go up at least one size in one of the High-Test grades to maintain the weight, from this viewpoint **BBB anchor chain is the best choice**.

Well I didn't say there was going to be a simple answer!

And I haven't mentioned cost - you can guess in which direction that goes...

## Stainless Steel Anchor Chains

If your boat sports a nice shiny stainless steel anchor, it's essential that you attach it to a stainless steel anchor chain, using a stainless steel shackle to make the connection.

Otherwise dissimilar metals and galvanic corrosion will do what galvanic corrosion does - and fairly rapidly too.

Best stick to a galvanised anchor and chain in my view, and leave all the shiny stuff to the powerboaters.

### **But before you replace your anchor chain...**

Make sure that it's compatible with the gypsy on your windlass. If it isn't, does your windlass manufacturer offer one that is?

### **And finally...**

All data - dimensions, safe working loads and weights etc - stated in this article are approximate and are likely to vary according to the chain manufacturer. Before buying new chain, always check out the specification with the supplier.