



Chain

General Information

Dimension Ratios

For many years, dimensions of stud link anchor chain have been standardized so that all chain manufacturers are required to furnish chain conforming to dimension charts published by various testing societies (Lloyds, American Bureau of Shipping, etc.), within their limiting tolerances. For estimating purposes it is often useful to note the following:

The inside length (“grip” or pitch) of one link is 4 wire diameters.

The outside length of one link is 6 wire-diameters.

The outside width of one link is 3.56 wire-diameters.

The gauge-test length is the outside length over 6 links and equals 26 wire-diameters.

The weight of one link is about 3-1/3 times its wire diameter cubed.

Doubling the wire-diameter of one link multiplies its weight by 8.

The weight of 1 linear foot of chain is 10 times its wire-diameter squared.

The length of a standard “shot” = 15 fathoms = 90 ft. = 1080”.

The weight of a 90 ft. shot = 900 times its wire-diameter squared.

Doubling the wire-diameter of a 90 ft. shot multiplies its weight by 4.

Doubling the size of chain theoretically multiplies its strength by 4; in practice, by a trifle less than 4.

The safe working load of chain is ordinarily assumed as one half the proof test.

Chain Lengths Required

In determining amount of anchor chain to be used for a particular anchorage it is usual to allow 5 to 7 times the depth of water; dependent on such factors as nature of bottom, present and anticipated weather, tidal and current conditions, state of readiness of the ship’s powerplant, draft, amount of exposed hull and superstructure, and length of stay at anchor. (U. S. Coast Guard)

Chain And Link Maintenance

Anchor chain cable should be ranged at regular intervals and examined for damage and signs of excessive wear. It is considered good practice to occasionally shift the shots about in the chain to insure even wear. The chains may also be sprayed with a preservative such as fish oil at this time. (U. S. Coast Guard)

The U. S. Navy instructs that at least once every eighteen (18) months all anchor chain cable regardless of size, including detachable links, swivels and shackles should be examined, over-hauled and placed in a good state of preservation. Chain connecting links particularly should be disassembled and the interiors recoated with a white lead and tallow mixture, and identification mark restored if necessary.