

Glossary of Terms

A

Abrasion Resistance: The ability of a material or surface to withstand mechanical action such as rubbing, scraping, or erosion, that tends progressively to remove material from its surface.

ABS: Abbr. *The American Bureau of Shipping*

Alloy Steel: A steel to which one or more alloying elements other than carbon have been deliberately added to achieve a particular physical property.

API: Abbr. *American Petroleum Institute*

Attachments: Any attachment, such as hooks or links, should have a rated "Work Load Limit" at least equal to the chain with which it is used.

B

Break Load: The load at which a product may fail and release the load.

Break Strength: See Break Load

BV: Abbr. *Bureau Veritas*

C

Carbon Steel: Lower grade steel

Cast Steel: Material used in the casting process to manufacture a product. The molten material is poured into a mould and left to harden.

Chain Size: The diameter of the chain link material.

Chemical Resistance: The ability of a material to withstand exposure to acids, alkalis, solvents and other chemicals.

D

DIN: Abbr. *Deutsches Institut für Normung* (German Institute for Standardisation), the German national organisation for standardisation and is that country's ISO member body.

DNV: Abbr. *Det Norske Veritas*; Norwegian headquarters of international organisation for standardisation.

Drop Forged: Method of manufacturing a product whereas the product is formed using a stamping process.

Duty Rating: The number of repetitive cycles a product is required to perform during testing.

E

Electro Galvanised: Method of finishing an electric current is used to induce a chemical reaction to coat steel with zinc.

EN: Abbr. *European Norms*; Technical European Standards developed by the European Committee for standardisation to harmonising material or product specifications.

F

Factor of Safety: Industry term denoting theoretical reserve capability, meaning the difference between the work load limit and the break load limit. Usually computed by dividing the catalogue stated ultimate load by the catalogue stated Work Load Limit and generally expressed as a ratio, for example 5:1.

FC: Abbr. *Fibre Core*; Inner core of a wire rope made from man made fibre material.

Forged High Alloy Steel: Method of manufacturing a product by forming it into shape with a hydraulic machine and then heat treating the product. High alloy steel provides better mechanical properties or greater resistance to corrosion.

Forged Steel: Method of manufacturing a product by forming it into shape with a hydraulic machine and then heat treating the product. Also see drop forged and fully forged

FOS: Abbr. *Factor of Safety*

Fully Forged Steel: Refers to the process of making steel objects by forming them into shape with hydraulic machines (as opposed to casting), and then heat treating the product. Fully forged steel is stronger and less prone to cracking than cast parts.

H

High Tensile Steel: Steel with a higher yield point than that of mild steel and which is used, where necessary, for engineering structures or machine parts.

Hot-Dip Galvanised: Method of using molten zinc to coat steel.

I

IACS: Abbr. *International Association of Classification Societies* dealing with marine safety and regulation.

I-Beam: Steel beam used in building construction.

ISO: Abbr. *International Standards Organisation*

IWRC: Abbr. *Inner Wire Rope Core*; Inner core of a wire rope made from steel wire.

J

JIS: Abbr. *Japanese Industrial Standard*; published by the Japanese Industrial Standards Committee in conjunction with the Japanese Standards Association.

L

LR: Abbr. *Lloyds Register of Shipping*

M

Mild Carbon Steel: Steel with less than 0.15% carbon

Mild Steel: Hot-rolled steel

Minimum Break Force: The force at which a product will fracture. This is specified by the manufacturer and is less than the actual break force.

Minimum Break Load: The minimum load at which a product may fail and release the load.

Minimum Ultimate Load: The minimum load at which a new chain will break when tested by applying direct tension to a straight length of chain at a uniform rate of speed in a testing machine.

N

Nominal Break: The force at which a product will fracture.

Nett Buoyancy: The upward force that keeps things afloat. The net upward buoyancy force is equal to the magnitude of the weight of fluid displaced by the body. This force enables the object to float or at least seem lighter.

Nominal Nett Buoyancy: The average upward force that keeps things afloat. See nett buoyancy.

O

OCIMF: Abbr. *Oil Companies International Marine Forum*

P

Powder Coated: Type of coating, which is applied as a free-flowing, dry powder. The coating is typically applied electrostatically and is then cured under heat to allow it to flow and form a coat.

Proof Load: The load applied in excess of the Work Load Limit. At this load, the product should show no visual deformation.

Proof Test: The tensile test applied to new chain for the sole purpose of detecting injurious defects in the material or manufacture. It is the load which the chain has withstood under a test in which the load has been applied in direct tension to a straight length of chain.

PVC Covered: Method of encasing steel wire rope with a PVC sheath.

R

Rated Load: The maximum recommended load that should be exerted on the item. Also used for the Rated Load: Work Load Limit (WLL), and "Resultant Safe Working Load". All Rated Load values – unless noted otherwise – are for in-line pull with respect to the centerline on the item.

RINA: Abbr. *Royal Institution of Naval Architects* dealing with marine vessels and structures.

S

SABS: Abbr. *South African Bureau of Standards*

Safe Work Load Limit: The maximum load a piece of equipment is capable of raising, lowering or suspending

under particular service conditions. The SWL can be less than the WLL if the working conditions are extreme but it can never be more.

SANS: Abbr. *South African National Standards*

Shock Load: The resulting load for a rapid change of movement, such as impacting or jerking of a static load. A shock load is generally significantly greater than the static load.

Standard Lift: Standard height a chain or lever hoist is required to lift or lower a load. This depends on the length of load and hand chain fitted to the hoist.

Swage: The process of clamping together steel wire rope using a ferrule in order to make an eye.

SWL: Abbr. *Safe Work Load Limit*

SWR: Abbr. *Steel Wire Rope*

T

TCLL: Abbr. *Thousand Cycle Load Limit*; A benchmark value to measure the performance of ropes. TCLL expresses the maximum percentage of the nominal breaking strength at which a rope can be cycle loaded 1,000 times as tested under strict laboratory conditions. Simplified, TCLL expresses the rope's resistance against tension-tension fatigue. The higher the TCLL value expressed as a percentage, the higher the resistance against cycle load

Test Certificate: A detailed record issued by the manufacturer of a product stating Work Load Limit and Factor of Safety. This document highlights the capacity of the product and how it should be used.

Test Load: The force to which a product is tested. At this load, the product should show no visual deformation.

Tolerance: The permissible variation of an object or objects in some characteristic such as hardness, weight, or quantity. The permissible range of variation in a dimension of an object.

U

Uniform Load Method Calculation: The method of calculating the Work Load Limit for multi-leg slings using the assumption that the load will be evenly distributed to each leg and that each leg will therefore carry the same force.

W

WLL: Abbr. *Work Load Limit*

Work Load Limit: The maximum load which should be applied to a chain, when the chain is new or "in as new" condition, and when the load is uniformly applied in direct tension to a straight length of chain.