

Technical Information

Chain Manufacturing - Quality and Strength Requirements

Chains are divided into grades based on minimum nominal breaking stress.

Chain Grade	Surface treatment	Code	Minimum breaking stress N/in ²	Minimum breaking stress N/mm ²	Mean breaking stress "ksi"	Load factors			Typical use
						WLL	MPF	Breaking force	
8	Yellow U Black B	KL	31.50	800	116	1	2.5	4	General lifting (KL), Container lashing (LL). Extra heavy towing (ML), Lashing (KL, LL). Fishing (KL, ML, LL)
		ML	31.50	800	116	-	1	4	
		LL	31.50	800	116	-	1	4	
10	Blue A	KL	39.37	1000	145	1	2.5	4	General lifting

Testing and Quality Control- GrabiQ & Classic Chain (Grade 10 & 8)

In each step of the manufacturing of the chain, our systematic quality monitoring will ensure the highest safety and the longest life span in the product. Here are some especially important aspects of quality:

Material

The incoming material is supplied with test certificates only from qualified manufacturers and according to our stated material specifications.

Manufacturing

During forming and welding, the operators continuously control that the links meet the specified dimensions both before and after welding.

Single link samples are continuously mandrel tested on the weld. Shape, dimensions and deburring are then inspected visually.

Sample lengths are heat treated and then destruction load tested. Following these tests, the chain is heat treated.

Hardening and tempering is carried out continuously in computer controlled induction furnaces with regular samplings.

Proof Force

The entire chain is test loaded. The manufacturing proof force for short link chain is 2.5 times the permitted working load limit. This gives the chain high safety in use. The chain is then visually inspected and cut into delivery lengths. A sample is taken from every length and tested to destruction. Dimensions and shape are also checked. All results are documented.

Marking and Traceability

The international standards for lifting chain require that the chain is marked with Grade and Manufacturers ID. On our chain we stamp "SWE - 10G - H - 10G - 4", where the "H" and the "4" is the combination for the traceability code. In case of the unlikely event of chain failure, we can trace the specific chain link back to the very batch and raw material as well as the year and place of manufacture. Each individual delivery length also has its unique batch number.

