

Working load limit

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Safe Working Load (SWL) sometimes stated as the **Normal Working Load (NWL)** is the mass or force that a piece of lifting equipment, lifting device or accessory can safely use to lift, suspend, or lower a mass without fear of breaking. Usually marked on the equipment by the manufacturer and is often 1/5 of the **Minimum Breaking Strength (MBS)** although other fractions may be used such as 1/4, 1/6 and 1/10.^{[1][2][3]}

Other synonyms include **Working Load Limit (WLL)**, which is the maximum working load designed by the manufacturer. This load represents a force that is much less than that required to make the lifting equipment fail or yield, also known as the **Minimum Breaking Load (MBL)**. **SWL** or **WLL** are calculated by dividing **MBL** by a safety factor (**SF**). An example of this would be a chain that has a **MBL** of 2000 lbf (8.89 kN) would have a **SWL** or **WLL** of 400 lbf (1.78 kN) if a safety factor of 5 (5:1, 5 to 1, or 1/5) is used.

As such:

$$\mathbf{WLL} = \mathbf{MBL} / \mathbf{SF}$$

References

- Working Load Limit. "Working Load Limit Defined and Replaces Safe Working Load Terminology".
- njSWL. "safe working load". Retrieved 27 September 2012.
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Categories: Safety engineering

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