IS 3832: 2005 Hand-Operated Chain Pulley Block - Specification

A Hand-Operated Chain Pulley Block is a **manual lifting device** consisting of a frame, load chain, hand chain, top and bottom hooks, and gearing mechanism having worm or spur gear type, where pulling the hand chain creates **mechanical advantage** through gears to **lift heavy loads** vertically and it is primarily used in construction, maintenance, and industrial material handling operations.

The standard highlight the design criteria in which the blocks shall be designed to **withstand at least four times the working load limit** without failure and it is classified into **four classes** (Class 1 to Class 4) based on the frequency and magnitude of the load, and the effect of impact. The design of the components also have a **minimum safety factor of 4**.

The standard also highlight the constructional requirement with respect to the components such as frame, gears, load brakes, pawls, bearing, lubrication, suspension fittings, load chain, anchorages and Hand chain. The standards also provided the recommended materials to be used for frame, chain wheel and gears.

The product is required to undergo **operational proof test** at 1.5 times the working load limit and **light load test** with a test weight of between 25% and 50 % of working load limit so as to ascertain the product meet the standard requirement. The product is also tested with **endurance type test** for a period of 100 h to ensure the quality and durability of the blocks. The standard also provided the recommendations for **safe use** and **maintenance** of hand operated chain pulley blocks.

In summary, this Indian Standard addresses the key aspects such as **safety, reliability, durability and performance**, by specifying comprehensive design, construction, and testing requirements for hand-operated chain pulley blocks.