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Load Testing Procedure for Lifting Equipment

Load testing can only be done by a qualified Lifting Machinery Inspector.

1. Check lifting equipment capacity.
2. Check that the lifting machine has good service and repair history.
3. If the lifting machine has a good service history then load testing can be done at 100% of the safe working load displayed. If there is a poor history but the crane has a valid service report then the load testing must be done at 110%.
4. The lifting machine must be inspected and run through all its motions. Attention must be paid to the brakes and limits. If the lifting machine is found to be safe then the load testing can be done.
5. The scale or load weights being used must be calibrated within $\pm 1\%$.
6. The lifting tackle must be certified and in a good condition.
7. At the start of the test the lifting machine must be positioned so that the maximum deflection of the lifting machine can be measured.
8. The span of the crane must be measured.
9. Before the load is lifted the first reading must be taken from a fixed point. Every measurement must be taken from the exact same position.
10. The load must be lifted just clear of the ground to make sure the brakes hold. When the load is hanging still then the next measurement can be taken.
11. The load can then be lowered completely and the final measurement can be taken.
12. The measurements at stages 9 & 11 should be identical. If not then the lifting machine must be checked for any damage. The crane must be repaired/strengthened or downgraded. The load test must be redone after the modification.
13. The deflection of an overhead crane must not be more than 1mm deflection for every 750mm of the cranes span. The deflection of a swing jib crane must not be more than 1mm deflection for every 250mm of the Jibs span. The deflection of a mono-rail jib crane must not be more than 1mm deflection for every 500mm of the jibs span.
14. If the deflection test is successful then the load must be lifted again so that every tooth in the hoisting gear ratio has been subjected to the load.
15. The load must then be lifted just clear of the ground. Hold the load in this position for 10min to make sure the brake does not slip. Adjust brake if needed.
16. A lifting machine of 5000kg or more must be fitted with an overloading limiting device. The load must be increased slowly to check that the limit is functioning properly. If limit does not cut out then the limit must be removed and sent for calibration.
17. Run the lifting machine through all its movements and check that any other brakes are working correctly. Adjust brakes if needed.
18. After the test the lifting machine must be inspected to determine whether the lifting machine has withstood the testing.
19. If the lifting machine is found to have defects or is unsafe for use the lifting machine must be isolated immediately until the necessary repairs are done and then the load test must be done again.
20. If the lifting machine passes the load test then certificates will be issued.