



JDN MONOCRANE

UNDERSTANDING DUTY

'Duty' is the term used to describe how hard a hoist works.

If a hoist lifts its Maximum Rated Capacity (MRC) all day every day, then it is logical that its construction needs to be heavier and stronger than if it only lifts its MRC once a year for example.

Factors that influence duty include:

- 1 - Maximum Load
 - 2 - Required Height of Lift
 - 3 - Hoisting Speed required
 - 4 - Hook Cross Travel Speed
 - 5 - Load Spectrum
 - 6 - Operating Time
- } Refer Selection Tables
- } Refer table below & formula

So the more often a crane lifts its MRC, the higher or longer it lifts it, then the heavier or higher the duty needs to be.

Cranes are rated according to Capacity (MRC) and Duty so that we can provide the most economical and appropriate solution for you.

MECHANISM GROUP (DUTY) SELECTION TABLE

Load Spectrum		Operating Time (tm)			
Definition of Load Spectrum		Hours of Use Per Day			
Light	% of MRC % of Operating Time	< 2	2 - 4	4 - 8	8 - 16
Medium	% of MRC % of Operating Time	< 1	1 - 2	2 - 4	4 - 8
Heavy	% of MRC % of Operating Time	< 0.5	0.5 - 1	1 - 2	2 - 4
Very Heavy	% of MRC % of Operating Time	< 0.25	0.25 - 0.5	0.5 - 1	1 - 2
Mechanism Group as per DIN 15 020 / FEM 9.511		1Bm	1Am	2 m	3m
Mechanism Group as per AS 1418.1 / ISO 4301.1		M3/M4	M5	M6	M7

$$\text{Daily Operating Time (tm)} = \frac{2 \times \text{AHT} \times \text{CPh} \times \text{OT}}{60 \times \text{HS}}$$

- AHT - Average Hook Travel (m)
- CPh - Cycles per Hour
- OT - Operating Time per Day (Hrs)
- HS - Hoisting Speed (m/min)