2. Classification of hoisting equipment according to FEM 9.511

To choose an optimal hoist the lifting capacity and also the classification group must be known. The classification group indicates the theoretical operating time of the mechanical components under full load:

Classification group	FEM ISO	1 Bm M3	1 Am M4	2 m M5	3 m M6
Operating time in h	400	800	1600	3200	

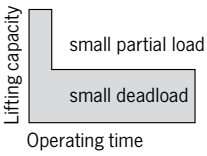
If the hoist is operated as classified an actual operating time of around 10 years can be expected.
After this period a general overhaul is necessary.

To define the classification group following values must be determined:

2.1 Average operating time per day

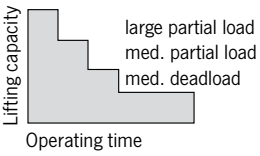
The average operating time can be estimated or calculated as follows:

$$\text{Operating time/day} = \frac{\text{2 x average hook path} \times \text{cycles/hour} \times \text{operating time/day}}{\text{60 x lifting speed}}$$



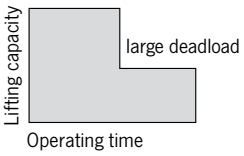
1 light

Hoists or parts thereof usually subject to very small loads and in exceptional cases only to maximum loads.



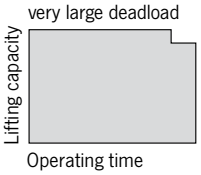
2 medium

Hoists or parts thereof usually subject to small loads but rather often to maximum loads.



3 heavy

Hoists or parts thereof usually subject to medium loads but frequently to maximum loads.



4 very heavy

Hoists or parts thereof usually subject to maximum or almost maximum loads.

2.2 Load spectrum

The load spectrum indicates to what extent a hoist or part thereof is subject to maximal stress or whether it is subject to smaller loads only. It can be calculated or estimated according to the diagrams on the right:

2.3 Classification

The classification group is defined by operating hours and load spectrum:

Load spectrum	Aver. op. hours per working day		
1 light	up to 2	2-4	4-8
2 medium	up to 1	1-2	2-4
3 heavy	up to 0.5	0.5-1	1-2
4 very heavy	up to 0.25	0.25-0,5	0.5-1
Classification group acc. to FEM/ISO	1 Bm/M3	1 Am/M4	2 m/M5