

1 Performance

1.1 General

Hoists are designed for lifting and transporting of materials only. Under no conditions or circumstances are hoists to be used for lifting or transporting of personnel.

Spacemaster® SX wire rope hoists are designed for indoor use where the ambient temperature can be between 14°F [-10°C] and 104°F [40°C], the elevation is less than 3300 ft [1000m], and the relative humidity is less than 90%.

When specially equipped, the hoists may be used for outdoor use, in more extreme ambient temperature conditions, or at a higher elevation.

The sound intensity level of the hoist in the assumed operating location does not exceed 70dB.

2 Hoist Duty Service Classification

2.1 FEM Hoist Duty Service Classification

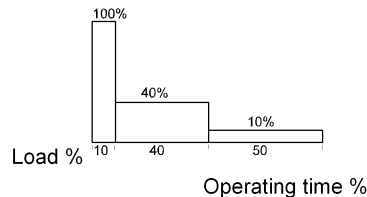
Service conditions have important influence on the performance of wearing parts of a hoist such as gears, bearings, rope, sheaves, electrical equipment, brake linings, load and lift limit devices, wheels, etc. Careful consideration of the hoist-duty service classifications will enable the user to evaluate the application, and to obtain a hoist designed for optimum performance and minimum maintenance. According to FEM9.511 standard, the hoist-duty service classification can be determined from its 1) load spectrum 2) average daily operating time.

2.1.1 FEM Load Spectrum

The load spectrum can be determined from the table below.

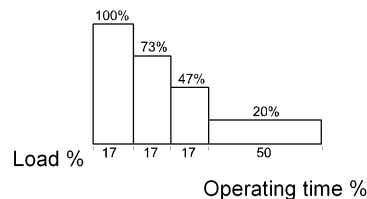
LIGHT

Occasional full loads.
Usually light load.
Small fixed load.



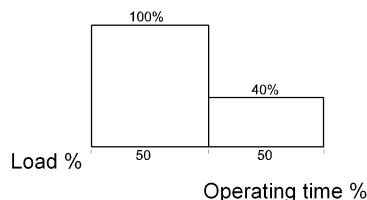
MEDIUM

Occasional full loads.
Usually light load.
Average fixed load.



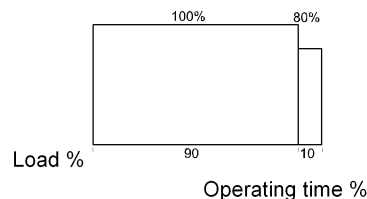
HEAVY

Repetitive full loads.
Usually average load.
Heavy fixed load.



VERY HEAVY

Usually almost full loads.
Very heavy fixed load.



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2.1.2 FEM Average Daily Operating Time

The average daily operating time of the hoist can be calculated from the running time of the hoisting machinery [hours/day].

$$t = \frac{2 * H * N * T}{V * 60}$$

- ◆ H = average hoisting height [m]
- ◆ N = number of work cycles per hour [cycles/h]
- ◆ T = daily working time [h]
- ◆ V = hoisting speed [m/min]

2.1.3 Determining the FEM hoist duty service classification

When the load spectrum and the average daily operating time of the hoist are identified, the duty service classification of the hoist is obtained from the table below.

Load spectrum	Average daily operating time					
	ISO/FEM					
	(hours per day)					
	≤ 0.5	≤ 1	≤ 2	≤ 4	≤ 8	≤ 16
LIGHT			M3 1Bm	M4 1Am	M5 2m	M6 3m
MEDIUM		M3 1Bm	M4 1Am	M5 2m	M6 3m	M7 4m
HEAVY	M3 1Bm	M4 1Am	M5 2m	M6 3m	M7 4m	
VERY HEAVY	M4 1Am	M5 2m	M6 3m	M7 4m		

2.2 ASME Hoist Duty Service Classification

For information about ASME Hoist Duty Service Classification, reference ASME publication catalog ASME HST-4 (latest edition) for electric wire rope hoists.

2.3 Comparison of Hoist Duty Service Classifications

Code	3	4	5	6
ISO	M3	M4	M5	M6
FEM	1Bm	1Am	2m	3m
ASME HST-4M	H2	H3	H4	H4*

	Starts per Hour				
FEM	150	180	240	300	360
ASME HST-4M	75	150	300	300	---

	FEM Intermittent Duty-ANSI/ASME Uniformly Distributed Work Periods (min/hr)				
FEM					
ASME HST-4M	7.5	15	30	30	---

*None of the Spacemaster® SX hoists is or can be rated higher than ASME H4 duty service classification.