

Example of comparison of two cranes in classifying of hoisting mechanism to the group 1Bm -classification according to FEM 9.511(M3 according to the STN ISO 4301) and the group 3m (M6 according to the STN ISO 4301).

The group 3 m (M6) include a higher lifetime of crane as the group 1 Bm (M3), the lower service costs and significantly reduce downtime due to failure of crane.

Increased costs when buying crane in group 3m (M6) against group 1 Bm (M3) is quickly returned.

When to used in group 3m (M6) and when 1Bm (M3) ?

**Group 1Bm (M3) is for light to medium duty
Group 3m (M6) is for heavy-duty operations and heavy loads**

Hoisting mechanism classification according to ISO 4301 has totally 8 groups for abstraction. From M1 (1Dm according to FEM) to M8 (5m - FEM).

The most common cranes are offered in the group M3 or M4. This is sufficient for routine workshop operations.

Group 3m (M6) is designed for demanding operations where the crane is still used to full capacity.

When is heavy-duty operation?



Group 1Bm (M3)

- lifting of lighter loads
- repair in workshop
- loading and unloading of machine parts

Group 3m (M6)

- lifting of heavy loads
- metallurgical plant
- working with gripper

For clarity, we can compare the components of two identical cranes, with the same capacity, span and hoist. First crane will be in group 1Bm (M3) and second crane in group 3m (M6):

Component	Hoisting mechanism classification 1Bm	Hoisting mechanism classification 3m
Duty cycle % ED	25	50
Bridge wheel size	300 mm	360 mm
Crane crab wheel size	250 mm	300 mm
Crane travelling motor	2 x 750 W	2 x 1 000 W
Crane crab travelling motor y	1 x 370 W	1 x 550 W
Bearings lifetime	1 600.	12 500