RAMA UNIVERSITY

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FACULTY OF ENGINEERING & TECHNOLOGY

Electrical Machine-ii

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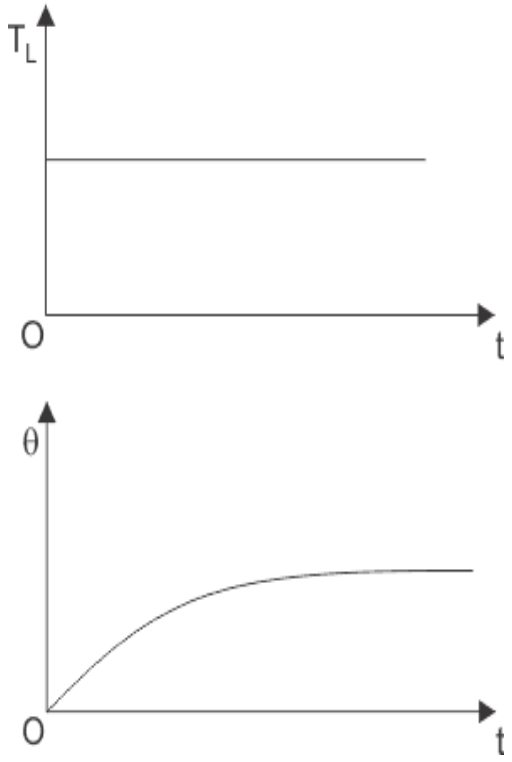
CLASSES OF MOTOR DUTY.

- Continuous duty
- Short time duty
- Intermittent periodic duty
- Intermittent periodic duty with starting
- Intermittent periodic duty with starting and braking
- Continuous duty with intermittent periodic loading
- Continuous duty with starting and braking
- Continuous duty with periodic speed changes
- Continuous Duty

Continuous Duty

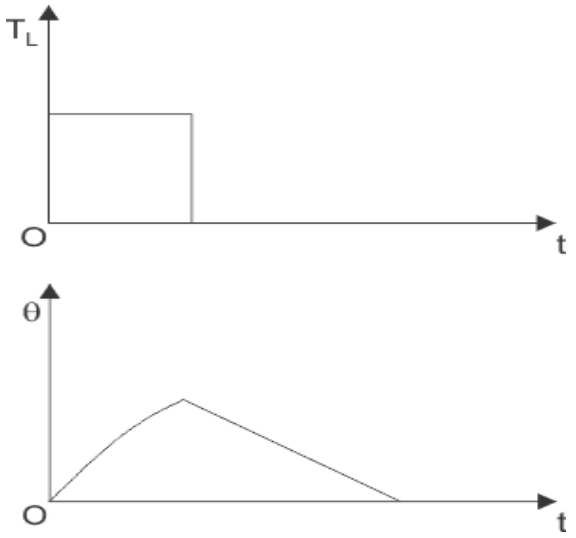
- This duty denotes that, the motor is running long enoug and the electric motor temperature reaches the steady state value.
- These motors are used in paper mill drives, compressors, conveyors etc.



Short Time Duty:

In these motors, the time of operation is very low and the heating time is much lower than the cooling time.

- So, the motor cooks off to ambient temperature before operating again. These motors are used in crane drives, drives for house hold appliances, valve drives etc.

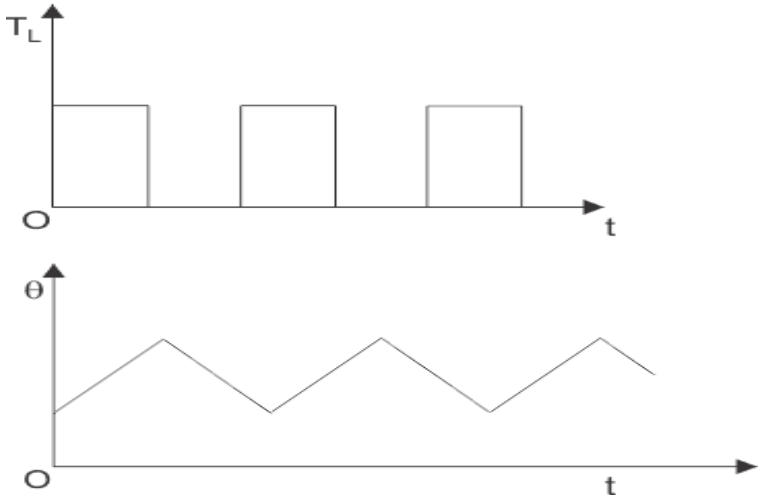


Short Time Duty

Intermittent Periodic Duty

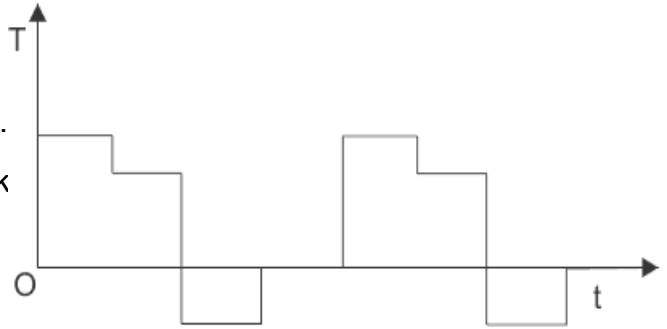
Here the motor operates for some time and then there is rest period.

- In both cases, the time is insufficient to raise the temperature to steady state value or cool it off to ambient temperature.
- This is seen at press and drilling machine drives.



Intermittent Periodic Duty

Intermittent Periodic Duty with Starting and Braking

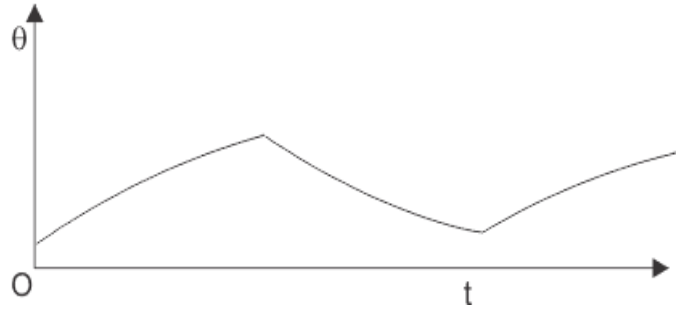


In this type of drives, heat loss during starting and braking cannot be ignored.

- So, the corresponding periods are starting period, operating period, brak period and resting period

Continuous Duty with Intermittent Periodic Loading

In this type of motor duty, everything is same as the periodic duty but here a no load running period occurs instead of the rest period.



- Pressing, cutting are the examples of this system.

Continuous Duty with Starting and Braking

It is also a period of starting, running and braking and there is no resting period. The main drive of a blooming mill is an example.

Continuous Duty with Periodic Speed Changes

In this type of motor duty, there are different running periods at different loads and speeds. But there is no rest period and all the periods are too short to attain the steady state temperatures