

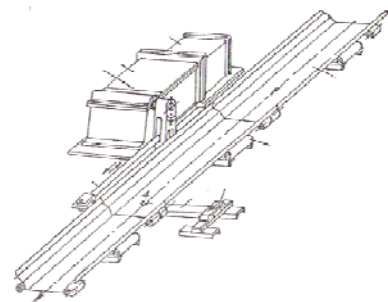
Scraper conveyor

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- Motor (Electric or compressed), flame proof
- Reduction gear
- trough line
- supporting structures
- Cradles and rollers
- Ball or rollers

- The reciprocating motion of the trough should be such that during the forward motion (i.e. in the direction of transportation) the material moves along with it.
- While during the backward motion the material may not moves along with it or may continue to move forward due to inertia or may move backward with a velocity less than that of the trough.
- Thus the material travels some distance during each stroke.

Scraper conveyor

- It is fairly efficient on levels but not against uphill grade.
- It work very efficiently in downhill until the gradient reaches 1 in 3.
- Dry and wet material is easier to transport compare to sticky material.
- Generally electric drives having horse power of 10,15 or 20 can be used.

$$V = \frac{sn}{60}$$

- s, depends on the type of drive and angel of inclination
- For a standard conveyor with troughs of 700 cm² cross-sectional area, the capacity, calculated from the equation may be 50 to 150 t/h (coal)
- Capacity also depends on length of conveyor, types of cradles and wheel and conditions of conveyors.

- Length and no of strokes

no of stroke is 55 to 80 /minute.

length of stroke range between 5.08 to 25 cm.

- The stroke is adjustable so that it can be varied to give the greatest forward movement to the material to the material under the prevailing conditions.
- In general, a shorter stroke is required for downhill than for uphill conveying.

- Width = 0.75
- Trough length 2.7 to 3.0 m

- In general the length should not exceed 91.5 m.

Advantages

- Relatively cheap
- Simple in construction
- Maintenance is comparatively easy
- Suitable for small mines
- Easy in dismantled for fittings
- The drive unit can be places almost any where

Disadvantages

- Tends to break the coal and increase the production of dust
- Normally it is noisy
- Less capacity
- Under weak roof or disturbed ground the reciprocating action may adversely affect the roof support
- Maximum length around 90 m
- Under weak or soft floor cradles tend to dig into the floor.

