

Calculating a Reorder Point

The reorder point (or reorder level) is the inventory level at which a company would place a new order or start a new manufacturing run.

The following two formulas are used for the calculation of a **reorder point or level** for maximum daily or weekly or monthly usage \times Lead time and a reorder level for maximum daily or weekly or monthly usage \times Lead time + Safety stock.

#1 Formula for Reorder Point (Level) = **Lead Time \times Daily Average Usage**

- Lead time is the time it takes the supplier or the manufacturing process to provide the ordered units.
- Daily average usage is the number of units sold (or used) on a daily.

Example:

ABC Ltd. is a retailer of footwear. It sells 500 units of one of a famous brand daily. Its supplier takes a week to deliver the order. At what quantity should the inventory manager place his/her next order?

The inventory manager should place an order before the inventories drop below 3,500 units (500 units of daily usage multiplied with 7 days of lead time) in order to avoid a stock-out.

#2 Formula for Reorder Point (Level) with Safety Stock= **Lead Time \times Daily Average Usage + Safety Stock**

If a business is holding a safety stock to act as buffer if daily usage accelerates the reorder level would increase by the level of safety stock.

Example:

ABC Ltd. has decided to hold a safety stock equivalent to average usage of 5 days. Calculate the reorder level.

Safety stock which ABC Ltd. has decided to hold equals 2,500 units (500 units of daily usage multiplied by 5 days).

In this scenario reorder level would be 6,000 units (2,500 of safety stock plus 3,500 units based on 7 days of lead time).