

The Safety Stock Calculator

By Brian Pye

- The Safety Stock Calculator can be freely downloaded and used.
- The Safety Stock Calculator can be found in the downloads section of www.PyeLive.com

The Safety Stock Calculator can greatly improve the efficiency of a company or corporation. The use of the calculator can also help in creating a safe, healthy, desirable, and environmentally friendly work environment. The Safety Stock Calculator was created to fill the need of making the process of applying the equations needed to find the proper safety stock level for an inventory part simple, logical, and accurate.

The simplicity of the calculator is easy to recognize. The work of performing the proper equations can be left to the calculator. To use the calculator the user needs only to answer four simple questions regarding a part the user wants to keep in stock. The four questions are:

1. What is the part's/item's longevity?
Longevity is defined as "length of life" by the Merriam-Webster dictionary. When using the safety stock calculator for "longevity" the user should enter the length of life or the length of time the part/item in question is expected to be in production/available before it is required to be changed/replaced/refilled. The length of time can be in "CT" calendar time based on a 24 hour 7 day usage or the actual usage length in hours days weeks or months.
2. What is the lead time or rebuild time?
The lead time is the length of time between the CT(calendar time) date/time a part/item is ordered and the date/time the same part/item is received in at the plant and is able to be used. Some parts/items do not require replacement instead they are able to be rebuilt. In the case of a part/item that is able to be rebuilt the answer to the question of lead/rebuild time would be how long it takes to make the part ready to be utilized.
3. What is the acceptable down time?
The acceptable down time is the amount of usage time (not CT) the part is not needed or an acceptable amount of time dictated by management.
4. What is the quantity needed?
The quantity needed for critical parts/items should be the amount needed to keep production running at 100% capacity. For noncritical parts/items the number should be dictated by management.

The logical equations used by the calculator take into account all of the known variables needed for an accurate safety stock. The variables are longevity, lead/rebuild time, acceptable down time, and usage quantity. The logic was developed to take the guess work out of determining a safety stock.

Accuracy is one of the main goals of the safety stock calculator. The Safety Stock calculator is a tool to make applying the mathematical logic needed to determine a safe level of inventory easier. The calculator can only be as accurate as the data entered into the calculator. Only the resulting data from proper data collection should be entered into the calculator. Using inaccurate data will cause the result produced by the calculator to be inaccurate. The use of an inaccurate result due to poor data being entered into the calculator could result in unnecessary production downtime or creating an unsafe unhealthy or undesirable work environment.

The Safety Stock Calculator should be utilized. The resulting number calculated by the calculator is the quantity that should be kept in stock/On Hand. Use of the Safety Stock Calculator will help keep a company's production at 100% while also helping to create/sustain a safe healthy desirable and environmentally friendly work environment.

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- The Safety Stock Calculator - logic and equations used in the calculator - and the theory used in this document were all produced written and or developed by Brian Pye.