

the six big LOSSES OF OEE:

To be able to better determine what is contributing to the greatest loss and so what areas should be targeted to improve the performance, these categories have been subdivided further into what is known as the Six Big Losses to OEE.

- AVAILABILITY
- PERFORMANCE
- QUALITY

PLANNED DOWNTIME / EXT. UNPLANNED

Reason for Loss

- Changeovers
- Planned maintenance
- Material shortages
- Labour shortages

Countermeasures

- Planned Downtime Management
- 5S Workplace Organisation
- ABC Planning

BREAKDOWN LOSS

Reason for Loss

- Equipment failure
- Major component failure
- Unplanned maintenance

Countermeasures

- Kaizen Blitz
- ProACT
- Root cause analysis
- Asset Care

MINOR STOP LOSS

Reason for Loss

- Fallen product
- Obstruction
- Blockages
- Misalignment

Countermeasures

- IFA Opportunity Analysis
- 5S Workplace Organisation
- Management Routines (SIC)
- Line Minor stop audits

SPEED LOSS

Reason for Loss

- Running lower than rated speed
- Untrained operator not able to run at nominal speed
- Misalignment

Countermeasures

- IFA Opportunity Analysis
- Line Balance Optimisation
- Management Routines (SIC)

PRODUCTION REJECTS

Reason for Loss

- Product out of specification
- Damaged product
- Scrap

Countermeasures

- IFA Opportunity Analysis
- Six Sigma
- Error proofing

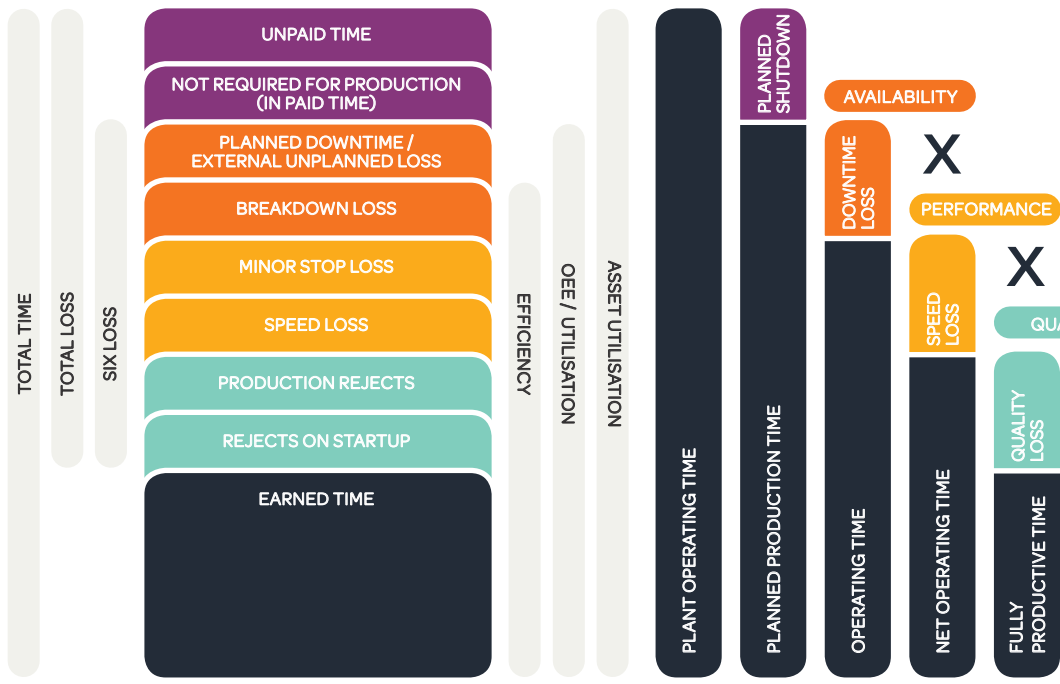
REJECTS ON STARTUP

Reason for Loss

- Product out of specification at start of run
- Scrap created before nominal running after changeover
- Damaged product after planned maintenance activity

Countermeasures

- Planned Downtime Management
- 5S Workplace Organisation
- Standard Operating Procedures
- Precision settings

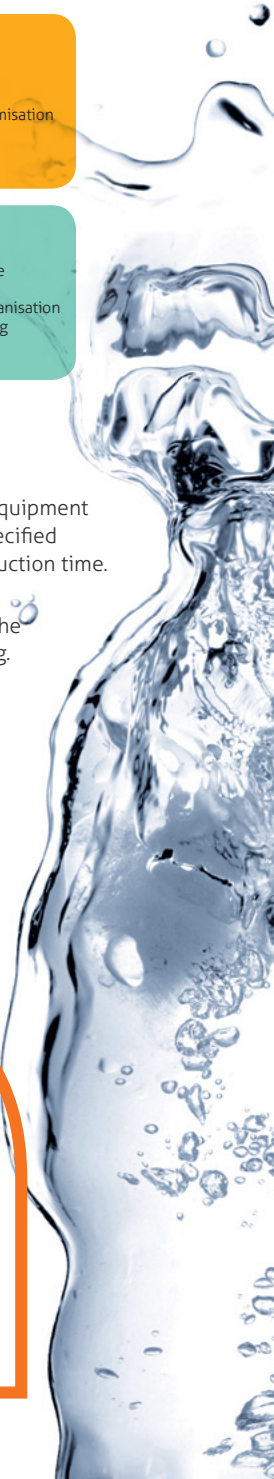


calculation

$$\frac{\text{Operating Time}}{\text{Planned Production Time}} \times \frac{\text{Net Operating Time}}{\text{Operating Time}} \times \frac{\text{Fully Productive Time}}{\text{Net Operating Time}} = \text{OEE}$$

- AVAILABILITY** is a measure of the time equipment was actually available to run within the specified duration generally known as planned production time.
- PERFORMANCE** is a measure of how well the equipment performed when it was running.
- QUALITY** is a measure of time taken to produce good quality product.

six loss	calculation
PLANNED DOWNTIME / EXTERNAL UNPLANNED EVENT	Planned Downtime / Total Production Time
BREAKDOWN LOSS (>5 MINS)	Major Fault Time / Total Production Time
MINOR STOP LOSS (<5 MINS)	Minor Fault Time / Total Production Time
SPEED LOSS	(Output / Ave Speed X Total Production Time) - (Output / Rated Speed X Total Production Time)
PRODUCTION REJECTS	Rejects In Prod / (Good Output + Total Rejects)
REJECTS ON START UP	Rejects On Start Up / (Good Output + Total Rejects)





OEE* POCKET GUIDE

*Overall Equipment Effectiveness

More on OEE?
Enroll in the Crash Course @ lineview.com



what is OEE?

The three main components of Overall Equipment Effectiveness (OEE) are Availability, Performance and Quality.

$$\begin{array}{c} \text{AVAILABILITY} \\ \times \\ \text{PERFORMANCE} \\ \times \\ \text{QUALITY} \end{array} = \text{OEE}$$

— OEE is widely used measure to determine performance against equipment capability.

— The difference between your theoretical and actual production is due to losses.

— These losses can be categorised into various metrics that provide you with excellent data to enable you to target specific areas to improve.

In simplest terms, OEE illustrates what you actually made as compared against what you could have made in theory over that timeframe.