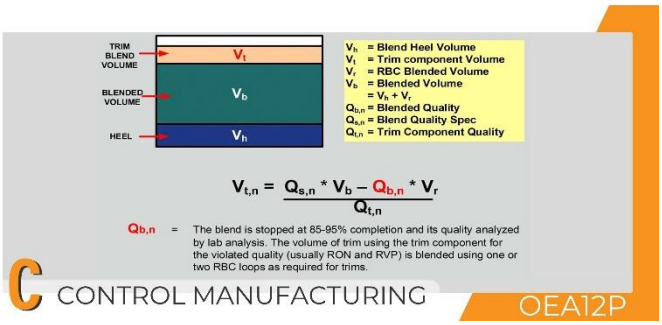
# Blend Trim Control

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| **Topic ID** | **OEA12T** |
| **Title** | **Blend Trim Control** |
| **Category** | **C-Control Manufacturing** |
| **eLearning Level** | **Basic** |

## Introduction

Trim blending control is done through ratio control in a system to streamline refinery operations. It aims at producing high-quality blends to reduce blend costs while maintaining specification compliance. High octane component is used for trim blending.

**This topic discusses the need for trim blending and methodology to correct violated fuel quality specs.**

### Features of Trim Blend Control

The trim blend control is an integrated feature in regulatory blend control, which is DCS-based.

It is used to refine to a specific blend but does not factor in the cost of production or the profit margin.

The final blend octane is made in the trim blend control system using high-octane components.

The trim blend control is usually useful in final blending.

### Limitations of Trim Blend Control

It is used to correct only off-spec blends.

The components used in trimming are usually very expensive.

The trim blend control system can only use and assign one or two qualities at a time.

The process is normally delayed because it depends on the outcome of the lab analysis, which takes some time to finish and awaits certification.

There must be a quality giveaway when more than one quality is involved.

It usually affects the blend operations by offsetting the process of in-line blending in the system.

### Quality Giveaway

Quality margin in the blend is usually accepted together with the occurring loss of value. This is because an economical method of correcting it does not exist. Therefore, this margin is usually blended to a lower value and re-blended with blends of low value.

### Quality Violation

These blends are usually rejected since they cannot be certified and hence cannot be sold. The trim blend control is used to bring blends with quality violation back to the right quality specification.

### Octane Numbers

Gasoline's octane number refers to its quality. Gasoline with a high-octane rating costs more than gasoline with a low octane rating. Here, resistance to detonation is good. It ensures the smooth functioning of the engine. There is a volumetric blending of Octane numbers but no linear blending. Here, octane numbers of blending components are considered.

### Summary

Trim blending is applied for the correction of specific qualities. It is used for re-blending in case quality violation is beyond acceptable limits. The concept of total quality volume is used by the DCS blend model. Mathematically, gasoline composition may be described by octane number.

| Mode of eLearning | Available? |
|---|---|
| Free Course | No |
| Refresher Course | No |
| Pick N Choose (Custom Curriculum) | Yes |
| Advanced Level Course | Yes |
| Structured MCOR Curriculum | Yes |