

Steam Stripping

The purpose of steam stripping is to raise the flash point of most of the products with drawing from the side of multidraw tower. The hot oil is contacted with steam in a stripping tower which is either of the packed column type or bubble cap tray column. It is usually recommended to strip less than 7%.

If more than 7% need to be stripped the process becomes less economical and the composition of the product must be adjusted inside the fractionating column.

The following equation is used to calculate the flash point:-

$$\text{Flash point} = 0.64 T - 100 \quad (T = \text{in any unit given})$$

By this equation the percent needed for compounds to be separated can be calculated in stripping column.

Example:-

Unstripped kerosene having the following: IBP=200F⁰, 5%=310 F⁰, 10%=355 F⁰. Flash point required=120 F⁰. Find the percent of light cuts to be stripped ?

The solution:

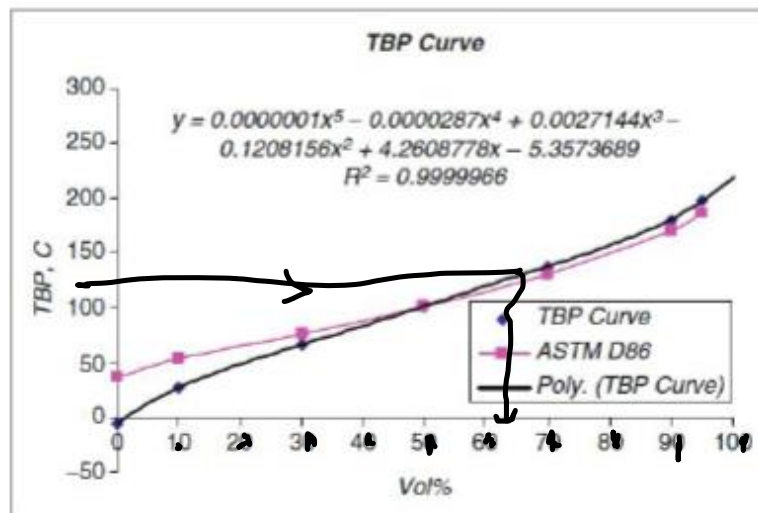
$$\text{Average temperature of (0-10\%)} = \frac{200 + 310 + 355}{3} = 288 \text{ F}^{\circ}$$

$$\text{Flash point} = 0.64 \times 288 - 100 = 90 \text{ F}^{\circ}$$

This flash point is not true because the required flash point of kerosene must be 120F° , so that the kerosene must be stripped to raise the flash point. To find the quantity of light cuts to be stripped in stripping tower, we use the same equation as shown below:

$$\text{Flash point} = 120\text{F}^{\circ} = 0.64 \times T - 100 = 344 \text{ F}^{\circ}$$

By drawing a curve, we find % stripped = 6.5%



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