精馏-分段进料-第8次

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一.简答题 (共1题,100.0分)

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There are two mixtures of benzene-toluene, with a molar flow rate ratio of 1:3,

The content is 0.5 and 0.2 respectively (both are molar fractions of benzene),

It is planned to separate in a distillation column.

The product content at the top of the tower is required to be 0.9,

and the liquid content at bottom should not exceed 0.05.

Both streams of liquid are preheated to the bubble point and added to the middle if the tower.

The equilibrium relationship of the system under operating conditions is as shown in the figure.

The reflux ratio is 2.5. Try to find:

(1) The theoretical number of plates required for

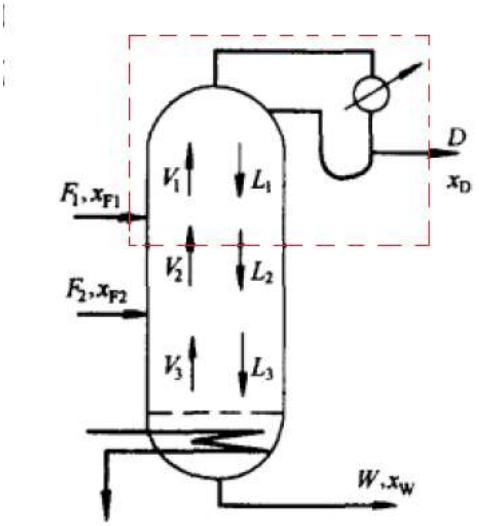
adding each of the two materials to the tower

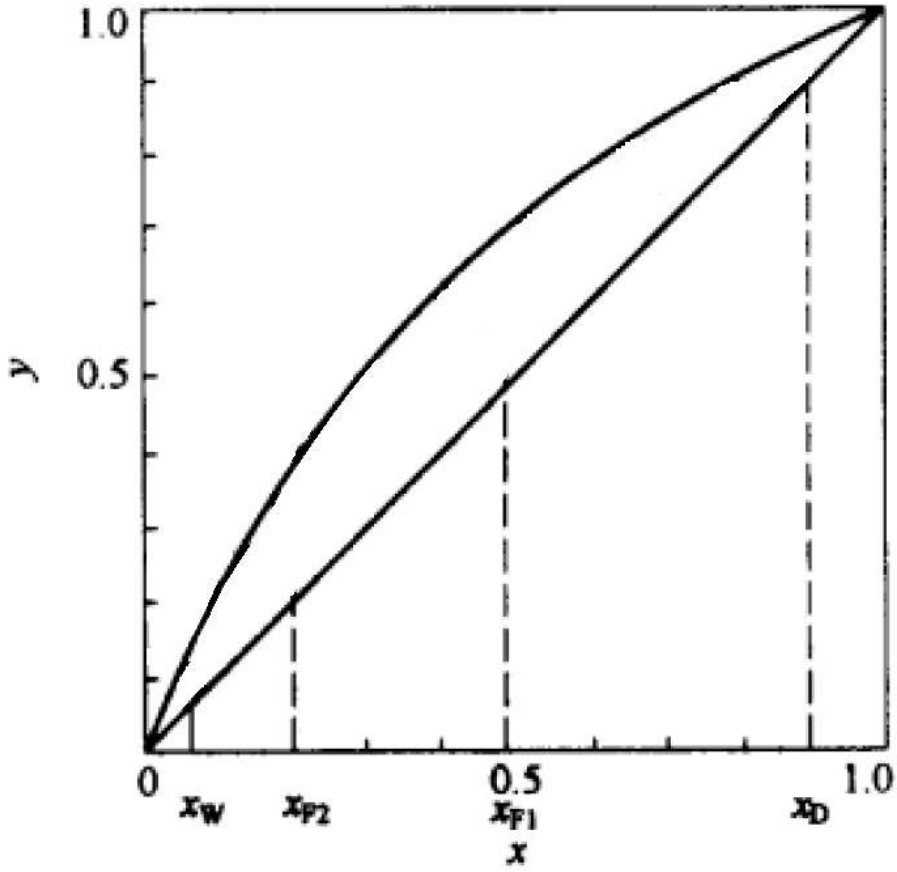
at appropriate positions.

*(2) The theoretical number of plates required for

mixing two materials into the feeding plate.

(Try to solve this one by yourself.)





有两股苯和甲苯混合液，摩尔流量之比为1:3,

含量各为0.5 和0.2 （ 皆为苯的摩尔分数），

拟在同一精馏塔进行分离。

要求塔顶产品含量为0.9，釜液含量不高于0.05。

两股料液皆预热至泡点加人塔内。

在操作条件下物系的平衡关系如图所示。

回流比取2.5。试求：

（1）两股物料各在适当位置分别加人塔内所需要的理论板数。

*（2）两股物料混合进料所需要的理论板数。(本次作业可以不提交)

我的答案：