

PC-9 SAE 10W-30 HT/HS SPECIFICATION (ASTM D 6278)

From ASTM D 3244: Utilization of Test Data to Determine Conformance with Specifications

AL = Acceptance Limit

S = Specification

R = ASTM Reproducibility of ASTM D 6278 (2.68% of mean)

N= Number of different laboratories (N=1)

$$AL = S + 0.255 \times 1.414 \times R \times D$$

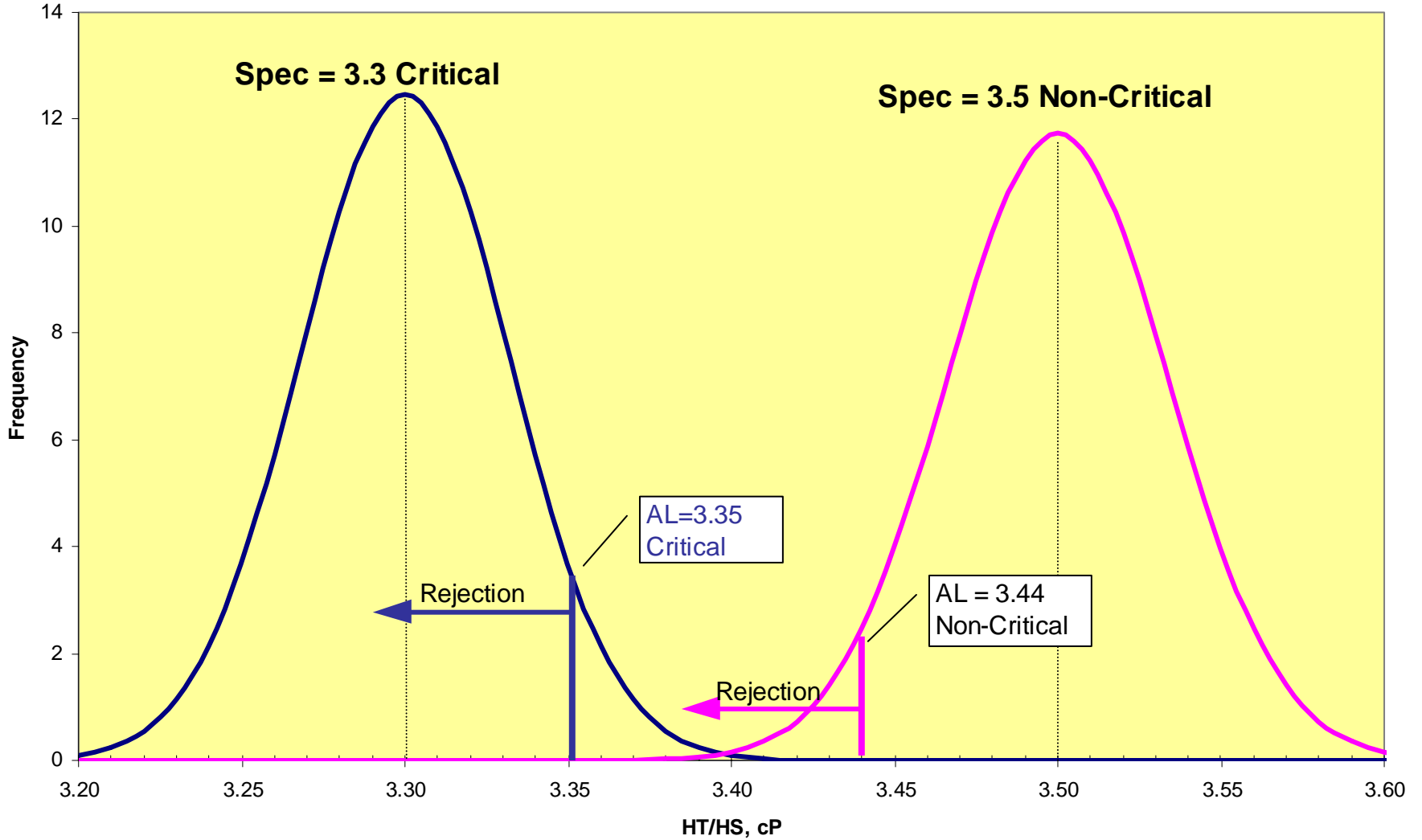
Case I: Non-Critical HT/HS Spec of 3.5 cP (Probability of Acceptance = 0.95)

AL = 3.44 (Likely blending target of 3.5 - 3.6)

Case II: Critical HT/HS Spec of 3.3 cP (Probability of Acceptance = 0.05)

AL = 3.35 (Likely blending target of 3.4 - 3.5)

Comparison of Critical and Non-Critical HT/HS SPecifications



Consequences of Differing HT/HS Specifications

3.3 cP Critical HT/HS:

If the true value is equal to the specification of 3.3 cP, there is a 95% probability of rejection. If the true value is equal to the AL of 3.35 cP, then the probability of rejection is 50%. In order to decrease the probability of rejection to <50 % , the manufacturer would need to target the true value at >3.35 cP.

3.5 cP Non-Critical HT/HS:

If the true value is equal to the specification of 3.5 cP, there is a 5% probability of rejection. If the true value is equal to the AL of 3.44 cP, then the probability of rejection is 50%. In order to decrease the probability of rejection to <50 % , the manufacturer would need to target the true value at >3.44 cP.