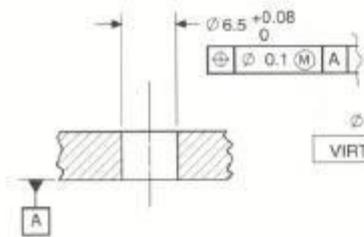




Virtual condition for a hole

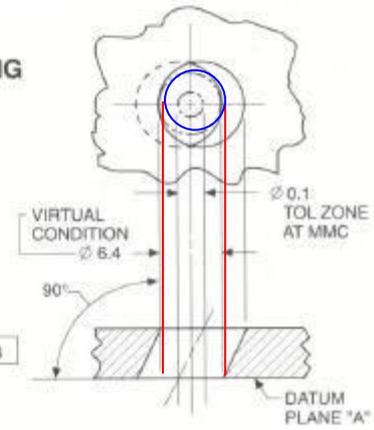
EXAMPLE



MEANING

$$\text{MMC} - \text{TOL} = \text{VC}$$
$$\varnothing 6.5 - \varnothing 0.1 = \varnothing 6.4 \text{ VC}$$

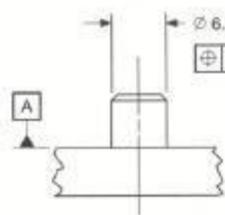
VIRTUAL CONDITION = $\varnothing 6.4$



Reproduced from Foster

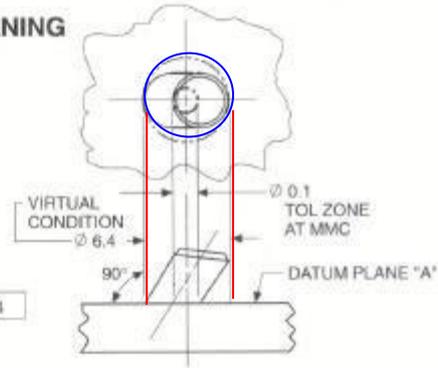
Virtual condition for a pin

EXAMPLE



$$\begin{aligned} \text{MMC} + \text{TOL} &= \text{VC} \\ \varnothing 6.3 + \varnothing 0.1 &= \varnothing 6.4 \text{ VC} \\ \text{VIRTUAL CONDITION} &= \varnothing 6.4 \end{aligned}$$

MEANING



Reproduced from Foster

Maximum Material Condition: State of a feature when it is at the limit of size such that the part contains the maximum amount of material.

Maximum Material Size: Dimension defining the MMC of a feature; smallest size for a hole and largest size for a shaft.

Virtual Condition (VC): The size generated by maximum material size and geometric tolerance; the size that guarantees mating. It is the size of the functional gauge pin.

for shaft, $\text{VC} = \text{MMS} + \text{geometric tolerance}$ (this slide)

for hole, $\text{VC} = \text{MMS} - \text{geometric tolerance}$ (next slide)