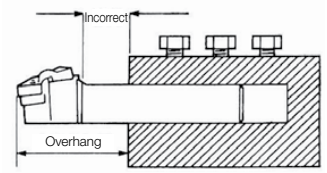
для заказа - kyocera@kyocera-tools.ru

Toolholder Rigidity

1. Flexure of Toolholder

$$\delta = \frac{4 \times F \times L^3}{E \times b \times h^3} = \frac{4 \times k \times ap \times f \times L^3}{E \times b \times h^3}$$



Symbol	Name	Unit
δ (Delta)	Deflection	mm
b	Shank Width	mm
h	Shank Height	mm
E	Young ratio	N/mm^2
ap	Depth of Cut	mm
f	Feed Rate	mm/rev
k	Specific Cutting Force	N/mm^2
L	Over hang	mm
F	Cutting force	N

(F = k × ap × f)

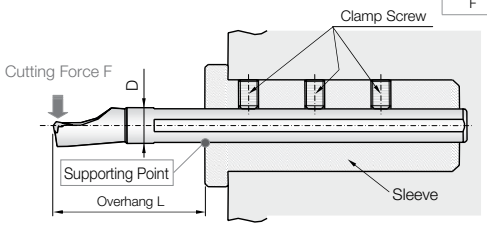
The flexural strength of toolholder will decrease by increasing of shank height by third root and will decrease of reducing over hang by third root.
Minimizing toolholder shank over hang as much as possible is important as well as shank's sectional square measure.

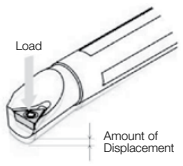
2. Flexure of Boring Bar

$$\delta = \frac{64 \times F \times L^3}{3 \times E \times \pi \times D^4} = \frac{64 \times k \times ap \times f \times L^3}{3 \times E \times \pi \times D^4}$$

Symbol	Name	Unit
δ (Delta)	Deflection	mm
D	Shank Dia.	mm
E	Young ratio	N/mm^2
ap	Depth of Cut	mm
f	Feed Rate	mm/rev
k	Specific Cutting Force	N/mm^2
L	Over hang	mm
F	Cutting force	N

(F = k × ap × f)





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