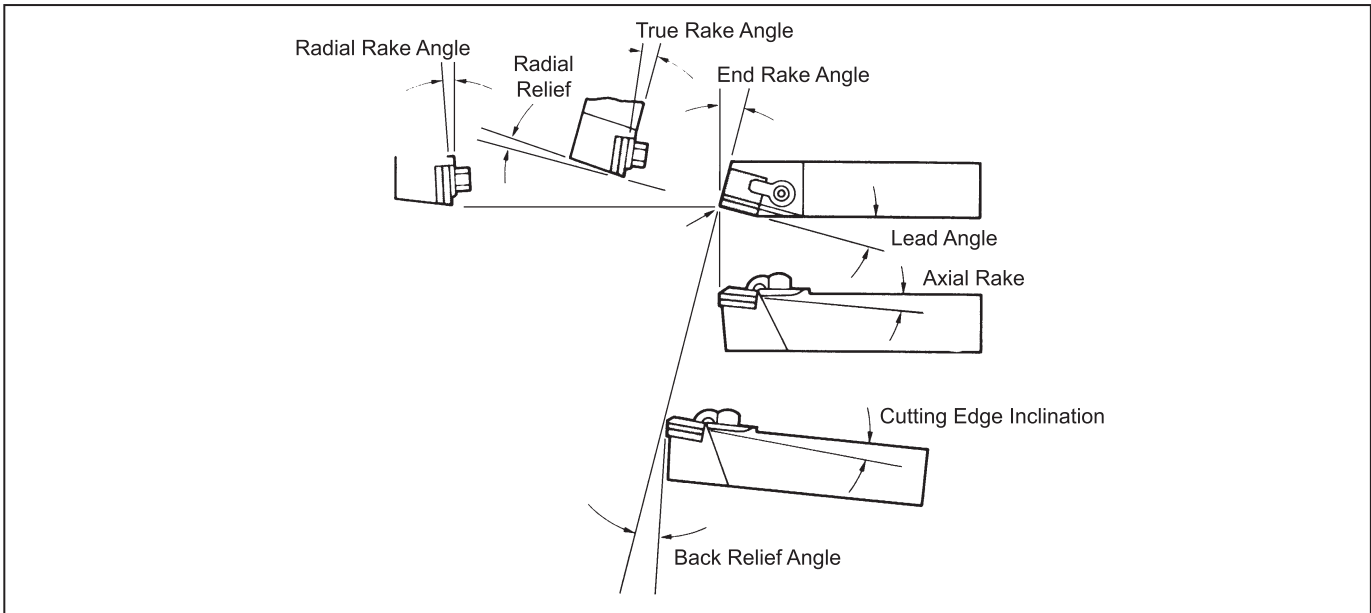


Technical Information

APPLICATIONS
Turning

Tool Holder Geometry



Calculation Formulas

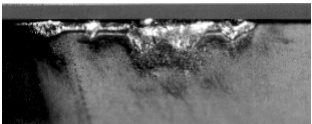
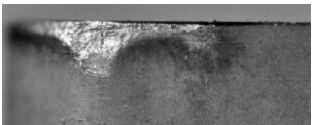
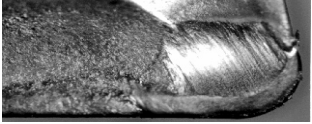
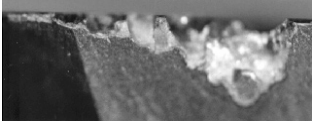

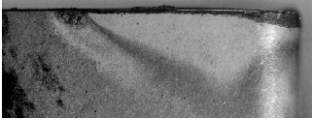
- Cutting speed (SFM) = $\frac{\pi \times D \times N}{12}$ (feet / min.)
- Feed (f) = $\frac{F}{N}$ (inch / rev.)
- Cutting Time (T) = $\frac{L}{F}$ (min.)
- Surface finish (Theoretical value) (h) = $\frac{f^2}{8R} \times 1000 \times 25.4$ (μ)

D: Diameter of workpiece (inch)
N: Revolution (r.p.m.)
F: Feed rate (inch / min.)
L: Length cut (inch)
R: Nose radius (inch)

Technical Information

APPLICATIONS
Turning

Troubleshooting

PROBLEM	CAUSE	RECOMMENDED ACTION
Chipping 	<ul style="list-style-type: none"> • insert grade • speeds & feeds • others 	<ul style="list-style-type: none"> • Change to tougher grade • Increase SFM if chipping is on trailing edge • Decrease SFM if chipping is on leading edge • Adjust chip load • Minimize tool overhang • Check for insert movement/check clamp
Flank Wear 	<ul style="list-style-type: none"> • insert grade • speeds & feeds 	<ul style="list-style-type: none"> • Change to more wear-resistant grade • Decrease SFM
Crater Wear 	<ul style="list-style-type: none"> • insert grade • insert shape • speeds & feeds • others 	<ul style="list-style-type: none"> • Change to more crater wear-resistant grade • Change breaker • Use positive rake insert • Decrease SFM • Adjust chip load
Broken Nose 	<ul style="list-style-type: none"> • insert grade • insert shape • others 	<ul style="list-style-type: none"> • Change to tougher grade • Use larger nose radius if allowable • Increase hone size • Adjust chip load
Built-up Edge 	<ul style="list-style-type: none"> • insert grade • insert shape • speeds & feeds • others 	<ul style="list-style-type: none"> • Change to tougher grade • Adjust hone size • Increase SFM • Adjust depth of cut per pass • Increase coolant concentration and/or flow
Deformation 	<ul style="list-style-type: none"> • insert grade • speeds & feeds 	<ul style="list-style-type: none"> • Change more heat-resistant grade • Decrease SFM