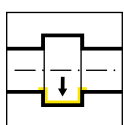
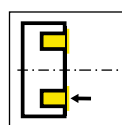


Geometry/Chipbreaker		Material Group	Feed Rate, Depth of Cut Direction of cut	Operation
 Sintered, all-purpose		P M K N S H	$f = .0012-.0028 \text{ in/rev}$ $f = 0.03-0.07 \text{ mm/rev}$ $ap = .0040-.0160 \text{ in}$ $ap = 0.1-0.4 \text{ mm}$	 Boring
 Ground, tighter chips		P M K N S H	$f = .0016-.0024 \text{ in/rev}$ $f = 0.04-0.06 \text{ mm/rev}$ $ap = .006-.020 \text{ in}$ $ap = 0.15-0.5 \text{ mm}$	 Boring
 Ground, larger chips		P M K N S H	$f = .002-.004 \text{ in/rev}$ $f = 0.05-0.1 \text{ mm/rev}$ $ap = .006-.020 \text{ in}$ $ap = 0.15-0.5 \text{ mm}$	 Boring
 Ground, super finishing		P M K N S H	$f = .0001-.0016 \text{ in/rev}$ $f = 0.003-0.04 \text{ mm/rev}$ $ap = .0002-.004 \text{ in}$ $ap = 0.005-0.1 \text{ mm}$	 Boring
 Ground, fine finishing		P M K N S H	$f = .0004-.0016 \text{ in/rev}$ $f = 0.01-0.04 \text{ mm/rev}$ $ap = .0012-.0020 \text{ in}$ $ap = 0.03-0.05 \text{ mm}$	 Fine Finishing
 Sintered, all-purpose		P M K N S H	$ap = .001-.004 \text{ in}^*$ $ap = 0.03 - 0.1 \text{ mm}^*$ *see Technical Information - Threading on page 450 for expanded recommendations	 Threading



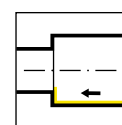
$f = .0004-.0012 \text{ in/rev}$
 $f = 0.01-0.03 \text{ mm/rev}$

Grooving



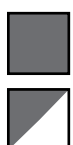
$f = .0008-.002 \text{ in/rev}$
 $f = 0.02-0.05 \text{ mm/rev}$

Face Grooving



$f = .0008-.002 \text{ in/rev}$
 $f = 0.02-0.05 \text{ mm/rev}$
 $ap = .006-.020 \text{ in}$
 $ap = 0.15-0.5 \text{ mm}$

Internal Boring



Recommended

Secondary



Carbon Steels

Non-Ferrous



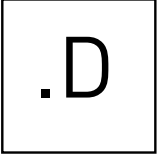
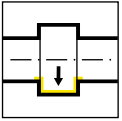
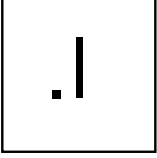
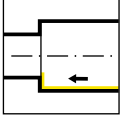
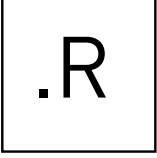
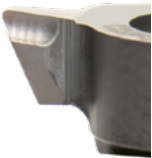
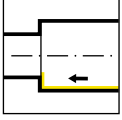
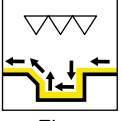
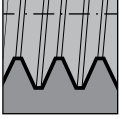
Stainless Steels

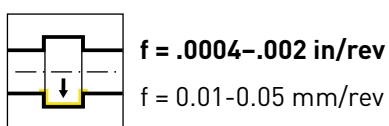
Super Alloys



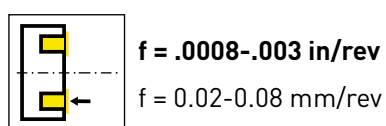
Cast Irons

Hardened Steels

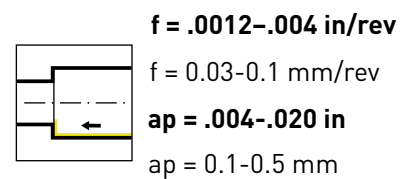
Geometry/Chipbreaker		Material Group	Feed Rate, Depth of Cut Direction of cut	Operation
 Sintered, all-purpose		P M K N S H	↓ ↔ f = .0012-.0032 in/rev f = 0.03-0.08 mm/rev ap = .0080-.0600 in* ap = 0.2-1.5 mm* *tool group dependent	 Grooving
 Sintered, best for boring		P M K N S H	← f = .0020-.0060 in/rev f = 0.05-0.15 mm/rev ap = .0020-.0250 in ap = 0.05-0.6 mm	 Boring
 Sintered, best for contouring		P M K N S H	← f = .0020-.0060 in/rev f = 0.05-0.15 mm/rev ap = .0080-.0800 in* ap = 0.2-2.0 mm* *tool group dependent	 Boring
 Ground, fine finishing		P M K N S H	↓ ↔ f = .0006-.0020 in/rev f = 0.015-0.05 mm/rev ap = .0020-.0030 in* ap = 0.03-0.07 mm* *tool group dependent	 Fine Finishing
 Sintered, all-purpose		P M K N S H	↓ ap = .001-.004 in* ap = 0.03 - 0.1mm* *see Technical Information - Threading on page 450 for expanded recommendations	 Threading



Grooving



Face Grooving



Internal Boring

	Recommended	P Carbon Steels	M Stainless Steels	K Cast Irons
	Secondary	N Non-Ferrous	S Super Alloys	H Hardened Steels