

RECOMMENDED CUTTING CONDITIONS

VOX400 (Standard pitch)

Work Material	Tensile Strength	Insert Grade	Cutting Speed (SFM)	$\phi 2'' - \phi 10''$		
				Radial Depth of Cut a_e (mm)	Depth of Cut a_p (inch)	Feed per Tooth (IPT)
Gray Cast Iron	$\leq 200\text{MPa}$	MC5020	985(820-1150)	$\leq D_1$	$\leq .394$	.016(.012-.020)
		VP15TF	820(655-985)	$\leq D_1$	$\leq .394$	.016(.012-.020)
	$\leq 350\text{MPa}$	MC5020	720(490-985)	$\leq D_1$	$\leq .394$	.012(.008-.016)
		VP15TF	655(490-985)	$\leq D_1$	$\leq .394$	.012(.008-.016)
Ductile Cast Iron	$\leq 450\text{MPa}$	MC5020	655(490-820)	$\leq D_1$	$\leq .394$	.012(.008-.016)
		VP15TF	555(490-655)	$\leq D_1$	$\leq .394$	.012(.008-.016)
	$\leq 800\text{MPa}$	MC5020	555(490-655)	$\leq D_1$	$\leq .394$	.008(.004-.012)
		VP15TF	490(330-655)	$\leq D_1$	$\leq .394$	.008(.004-.012)

VOX400 (Fine pitch)

Work Material	Tensile Strength	Insert Grade	Cutting Speed (SFM)	$\phi 2.5''$			$\phi 3''$		
				Radial Depth of Cut a_e (mm)	Depth of Cut a_p (inch)	Feed per Tooth (IPT)	Radial Depth of Cut a_e (mm)	Depth of Cut a_p (inch)	Feed per Tooth (IPT)
Gray Cast Iron	$\leq 200\text{MPa}$	MC5020	985(820-1150)	$\leq D_1$	$\leq .394$	.016(.012-.020)	$\leq D_1$	$\leq .394$	.016(.012-.020)
		VP15TF	820(655-985)	$\leq D_1$	$\leq .394$	.016(.012-.020)	$\leq D_1$	$\leq .394$	.016(.012-.020)
	$\leq 350\text{MPa}$	MC5020	720(490-985)	$\leq D_1$	$\leq .394$	.012(.008-.016)	$\leq D_1$	$\leq .394$	.012(.008-.016)
		VP15TF	655(490-985)	$\leq D_1$	$\leq .394$	.012(.008-.016)	$\leq D_1$	$\leq .394$	.012(.008-.016)
Ductile Cast Iron	$\leq 450\text{MPa}$	MC5020	655(490-820)	$\leq 0.8D_1$	$\leq .394$	.012(.008-.016)	$\leq 0.6D_1$	$\leq .394$	.012(.008-.016)
		VP15TF	555(490-655)	$\leq 0.8D_1$	$\leq .394$	.012(.008-.016)	$\leq 0.6D_1$	$\leq .394$	.012(.008-.016)
	$\leq 800\text{MPa}$	MC5020	555(490-655)	$\leq 0.8D_1$	$\leq .394$	.008(.004-.012)	$\leq 0.6D_1$	$\leq .394$	.008(.004-.012)
		VP15TF	490(330-655)	$\leq 0.8D_1$	$\leq .394$	.008(.004-.012)	$\leq 0.6D_1$	$\leq .394$	.008(.004-.012)

Work Material	Tensile Strength	Insert Grade	Cutting Speed (SFM)	$\phi 4''$			$\phi 5''$		
				Radial depth of cut a_e (mm)	Depth of Cut a_p (inch)	Feed per Tooth (IPT)	Radial Depth of Cut a_e (mm)	Depth of Cut a_p (inch)	Feed per Tooth (IPT)
Gray Cast Iron	$\leq 200\text{MPa}$	MC5020	985(820-1150)	$\leq D_1$	$\leq .394$	.016(.012-.020)	$\leq D_1$	$\leq .394$	.016(.012-.020)
		VP15TF	820(655-985)	$\leq D_1$	$\leq .394$	.016(.012-.020)	$\leq D_1$	$\leq .394$	.016(.012-.020)
	$\leq 350\text{MPa}$	MC5020	720(490-985)	$\leq D_1$	$\leq .394$	.012(.008-.016)	$\leq D_1$	$\leq .394$	.012(.008-.016)
		VP15TF	655(490-985)	$\leq D_1$	$\leq .394$	.012(.008-.016)	$\leq D_1$	$\leq .394$	.012(.008-.016)
Ductile Cast Iron	$\leq 450\text{MPa}$	MC5020	655(490-820)	$\leq 0.5D_1$	$\leq .394$	.012(.008-.016)	$\leq 0.4D_1$	$\leq .394$	.012(.008-.016)
		VP15TF	555(490-655)	$\leq 0.5D_1$	$\leq .394$	.012(.008-.016)	$\leq 0.4D_1$	$\leq .394$	.012(.008-.016)
	$\leq 800\text{MPa}$	MC5020	555(490-655)	$\leq 0.5D_1$	$\leq .394$	.008(.004-.012)	$\leq 0.4D_1$	$\leq .394$	.008(.004-.012)
		VP15TF	490(330-655)	$\leq 0.5D_1$	$\leq .394$	.008(.004-.012)	$\leq 0.4D_1$	$\leq .394$	.008(.004-.012)

Work Material	Tensile Strength	Insert Grade	Cutting Speed (SFM)	$\phi 6''$			$\phi 8'', \phi 10''$		
				Radial Depth of Cut a_e (mm)	Depth of Cut a_p (inch)	Feed per Tooth (IPT)	Radial Depth of Cut a_e (mm)	Depth of Cut a_p (inch)	Feed per Tooth (IPT)
Gray Cast Iron	$\leq 200\text{MPa}$	MC5020	985(820-1150)	$\leq D_1$	$\leq .394$	.016(.012-.020)	$\leq D_1$	$\leq .394$	.016(.012-.020)
		VP15TF	820(655-985)	$\leq D_1$	$\leq .394$	.016(.012-.020)	$\leq D_1$	$\leq .394$	.016(.012-.020)
	$\leq 350\text{MPa}$	MC5020	720(490-985)	$\leq D_1$	$\leq .394$	.012(.008-.016)	$\leq D_1$	$\leq .394$	.012(.008-.016)
		VP15TF	655(490-985)	$\leq D_1$	$\leq .394$	.012(.008-.016)	$\leq D_1$	$\leq .394$	.012(.008-.016)
Ductile Cast Iron	$\leq 450\text{MPa}$	MC5020	655(490-820)	$\leq 0.3D_1$	$\leq .394$	.012(.008-.016)	$\leq 0.2D_1$	$\leq .394$	.012(.008-.016)
		VP15TF	555(490-655)	$\leq 0.3D_1$	$\leq .394$	.012(.008-.016)	$\leq 0.2D_1$	$\leq .394$	.012(.008-.016)
	$\leq 800\text{MPa}$	MC5020	555(490-655)	$\leq 0.3D_1$	$\leq .394$	.008(.004-.012)	$\leq 0.2D_1$	$\leq .394$	.008(.004-.012)
		VP15TF	490(330-655)	$\leq 0.3D_1$	$\leq .394$	.008(.004-.012)	$\leq 0.2D_1$	$\leq .394$	.008(.004-.012)

● D_1 is cutter diameter.

● When using wiper insert, please reduce the feed per tooth to half the normal rate.

VOX400 (Extra fine pitch)

Work Material	Tensile Strength	Insert Grade	Cutting Speed (SFM)	φ2.5"			φ3"		
				Radial Depth of Cut ae (mm)	Depth of Cut ap (inch)	Feed per Tooth (IPT)	Radial Depth of Cut ae (mm)	Depth of Cut ap (inch)	Feed per Tooth (IPT)
Gray Cast Iron	≤200MPa	MC5020	985(820-1150)	≤D1	≤.394	.016(.012-.020)	≤D1	≤.394	.016(.012-.020)
		VP15TF	820(655-985)	≤D1	≤.394	.016(.012-.020)	≤D1	≤.394	.016(.012-.020)
	≤350MPa	MC5020	720(490-985)	≤D1	≤.394	.012(.008-.016)	≤D1	≤.394	.012(.008-.016)
		VP15TF	655(490-985)	≤D1	≤.394	.012(.008-.016)	≤D1	≤.394	.012(.008-.016)
Ductile Cast Iron	≤450MPa	MC5020	655(490-820)	≤0.6D1	≤.394	.012(.008-.016)	≤0.5D1	≤.394	.012(.008-.016)
		VP15TF	555(490-655)	≤0.6D1	≤.394	.012(.008-.016)	≤0.5D1	≤.394	.012(.008-.016)
	≤800MPa	MC5020	555(490-655)	≤0.6D1	≤.394	.008(.004-.012)	≤0.5D1	≤.394	.008(.004-.012)
		VP15TF	490(330-655)	≤0.6D1	≤.394	.008(.004-.012)	≤0.5D1	≤.394	.008(.004-.012)

Work Material	Tensile Strength	Insert Grade	Cutting Speed (SFM)	φ4"			φ5"		
				Radial Depth of Cut ae (mm)	Depth of Cut ap (inch)	Feed per Tooth (IPT)	Radial Depth of Cut ae (mm)	Depth of Cut ap (inch)	Feed per Tooth (IPT)
Gray Cast Iron	≤200MPa	MC5020	985(820-1150)	≤D1	≤.394	.016(.012-.020)	≤D1	≤.394	.016(.012-.020)
		VP15TF	820(655-985)	≤D1	≤.394	.016(.012-.020)	≤D1	≤.394	.016(.012-.020)
	≤350MPa	MC5020	720(490-985)	≤D1	≤.394	.012(.008-.016)	≤D1	≤.394	.012(.008-.016)
		VP15TF	655(490-985)	≤D1	≤.394	.012(.008-.016)	≤D1	≤.394	.012(.008-.016)
Ductile Cast Iron	≤450MPa	MC5020	655(490-820)	≤0.4D1	≤.394	.012(.008-.016)	≤0.3D1	≤.394	.012(.008-.016)
		VP15TF	555(490-655)	≤0.4D1	≤.394	.012(.008-.016)	≤0.3D1	≤.394	.012(.008-.016)
	≤800MPa	MC5020	555(490-655)	≤0.4D1	≤.394	.008(.004-.012)	≤0.3D1	≤.394	.008(.004-.012)
		VP15TF	490(330-655)	≤0.4D1	≤.394	.008(.004-.012)	≤0.3D1	≤.394	.008(.004-.012)

Work Material	Tensile Strength	Insert Grade	Cutting Speed (SFM)	φ6"			φ8", φ10"		
				Radial Depth of Cut ae (mm)	Depth of Cut ap (inch)	Feed per Tooth (IPT)	Radial Depth of Cut ae (mm)	Depth of Cut ap (inch)	Feed per Tooth (IPT)
Gray Cast Iron	≤200MPa	MC5020	985(820-1150)	≤D1	≤.394	.016(.012-.020)	≤D1	≤.394	.016(.012-.020)
		VP15TF	820(655-985)	≤D1	≤.394	.016(.012-.020)	≤D1	≤.394	.016(.012-.020)
	≤350MPa	MC5020	720(490-985)	≤D1	≤.394	.012(.008-.016)	≤D1	≤.394	.012(.008-.016)
		VP15TF	655(490-985)	≤D1	≤.394	.012(.008-.016)	≤D1	≤.394	.012(.008-.016)
Ductile Cast Iron	≤450MPa	MC5020	655(490-820)	≤0.25D1	≤.394	.012(.008-.016)	≤0.15D1	≤.394	.012(.008-.016)
		VP15TF	555(490-655)	≤0.25D1	≤.394	.012(.008-.016)	≤0.15D1	≤.394	.012(.008-.016)
	≤800MPa	MC5020	555(490-655)	≤0.25D1	≤.394	.008(.004-.012)	≤0.15D1	≤.394	.008(.004-.012)
		VP15TF	490(330-655)	≤0.25D1	≤.394	.008(.004-.012)	≤0.15D1	≤.394	.008(.004-.012)

● D1 is cutter diameter.

● When using wiper insert, please reduce the feed per tooth to half the normal rate.