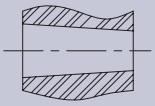
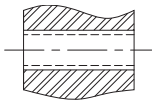
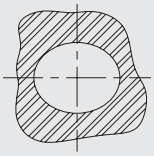
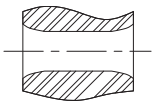
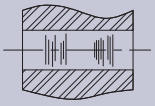
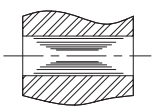
Shefcut® tool performance guide

The Shefcut® tool is capable of consistently producing straight, round, and accurately sized holes with fine surface finishes. There are, however, many application variables that can influence tool performance. Coolant, alignment, and blade adjustment are often the most critical factors. Other variables include spindle run-out, feeds and speeds, and blade edge quality. Trials and adjustments may be necessary in order to arrive at the correct operating parameters for your application.

These tips may enhance the performance of your Shefcut tool. Contact us for assistance.

TOOL PERFORMANCE GUIDE

BORE CONDITION	CORRECTIVE ACTIONS
Tapered bore 	1. Check workpiece-to-spindle alignment. Correct alignment. Use floating holder if necessary in lathe applications. 2. Check tool runout. Guide pads should be within 0.005mm (.0002 in.) TIR. Adjust runout. Use an adjustable holder if necessary. 3. Reduce blade back taper. Minimum back taper is 0.007mm (.0003 in.). 4. Consider a witness bore for reaming applications.
Bore too large 	1. Check blade setting. Adjust to proper cut diameter. 2. Check workpiece-to-spindle alignment and tool runout.
Bore not round 	1. Tool too small for bore size being cut. Use correct size tool. 2. Reduce blade back taper if necessary. Normal blade back taper is 0.02mm (.0008 in.). 3. Ensure bore distortion is not being caused by part fixturing.
Conical entrance or exit 	1. Check workpiece-to-spindle alignment and tool runout. 2. Check blade back taper (normal setting is 0.02mm (.0008 in.). 3. Reduce machine feed rate. 4. Tool may need repairing if excessive pad wear exists or if tool is bent. Pads should be inspected for material build-up; clean if required. Check straightness of tool.
Unsatisfactory surface finish 	1. Machine feed rate may be too fast; reduce feed. 2. Vary cutting speed. Some experimentation may be required to establish the optimum cutting speed. 3. Check chip evacuation and chip form. Adjust coolant volume and pressure. Use chipbreaker blade if necessary. 4. Increase lubricity of coolant. 10:1 or richer mixture is normally required. 5. Check for clean, filtered coolant. 6. Check blade for wear or damage and replace if necessary.
Chattered bore 	1. Check workpiece-to-spindle alignment and tool runout. 2. Check blade back taper and increase if necessary. Normal setting is 0.02mm (.0008 in.). 3. Increase coolant lubricity. Consider more stock allowance and/or increased feed rate. Change cutting rake.