



HUD Mining Supplies (Pty) LTD

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Impregnated Coring Bits – Wear Patterns & Problem Solving Quick Guide

	<p>Ideal Wear Pattern The face wear pattern of an impregnated HUD bit should be relatively flat with slightly chamfered sides</p>		<p>Burnt Lack of water – check pump and rod string for leaks and check inner tube adjustment. Maintain / increase coolant flow rates</p>
	<p>Normal Retirement The full depth of impregnation has been evenly consumed</p>		<p>Concave Face Wear (Rounded to ID) Often caused by excessive penetration rate for the rpm used – rpi (r/cm) to low. Also can be caused by core grinding, over-drilling</p>
	<p>Face Glazed (Diamond polished and bound to metal) Sandblast face or use other recommended methods to re-expose diamond. Try again with rpi (r/cm) in the 200-250 (80-100) range. If no success, change to a higher series HUD bit.</p>		<p>ID Gauge Loss Overfeeding – increase rpi (r/cm). Broken formation – cement or change to a lower series HUD bit. Drilling over lost core – check core barrel / core lifter / core lifter case. Insufficient drilling fluid - check as per burnt bit above</p>
	<p>Excessive Diamond Exposure Matrix abrades away before diamond has worn sufficiently, resulting in high diamond exposure and premature diamond release with low bit life. Caused by over-feeding / over-drilling. Increase rpi (r/cm), or change to a lower series HUD bit.</p>		<p>Convex Face Wear (Rounded to OD) Insufficient water flow – check as per burnt bit above</p>
	<p>Cracked Waterways Excessive bit load; dropped rods; free fall of wire-line inner tube in dry hole; bit crushed by rod holder, foot clamp or pipe wrench. Bit pushed down an undersized hole (i.e. reaming shell worn out).</p>		<p>OD Gauge Loss Vibration – alter rpm. Lack of circulation fluid – increase coolant flow rate. Bit reaming down undersized hole – check reamer shell gauge and replace if undersized. Check anchoring of machine</p>