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### Data Sheet



## CENTER WEAR PAD HARDBANDING

The Center Wear Pad (CWP) of Heavy Weight Drill Pipe (HWDP) is located in an area of the pipe that receives high cyclic stress. As this area flexes while rotating, downhole stresses can concentrate in the hardbanded area and possibly lead to failure by fatigue. For this reason, Postle's recommendation is to use extreme caution when hardbanding the Center Wear Pad area of HWDP.

Because of its location, the CWP is inherently more difficult to preheat, postheat and slow cool than either the pin or box end. Extra precautions should be implemented and application procedures should be strictly enforced in order to avoid excessive hardness in the heat affected zone.

For many years the CWP of HWDP, which was below the casing, has been hardbanded with tungsten carbide and mild steel, whereby the mild steel provides a great deal of ductility. However, the use of tungsten carbide and mild steel is declining. Tungsten carbide is not casing friendly, and therefore, should not be used if HWDP is used in the top section of the drill string or any other area where casing wear is a concern. We recommend the use of casing friendly products, Tuffband<sup>®</sup>NC and Duraband<sup>®</sup>NC. However, the risk of a failure increases with higher hardness products, like Tuffband<sup>®</sup>NC or Duraband<sup>®</sup>NC. Adequate precautions should be taken to make sure that proper preheat, interpass temperature and slow cooling is achieved

Fearnley Procter NS-1<sup>™</sup> allows the use of only non-cracking hardbanding on Center Wear Pads. Therefore Duraband<sup>®</sup>NC or Tuffband<sup>®</sup>NC are acceptable for initial application and re-application. Since the development of our products in 2003 we have not been made aware of any failures, flaking or spalling with Tuffband<sup>®</sup>NC or Duraband<sup>®</sup>NC.

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