Wear in Centrifugal Pumps

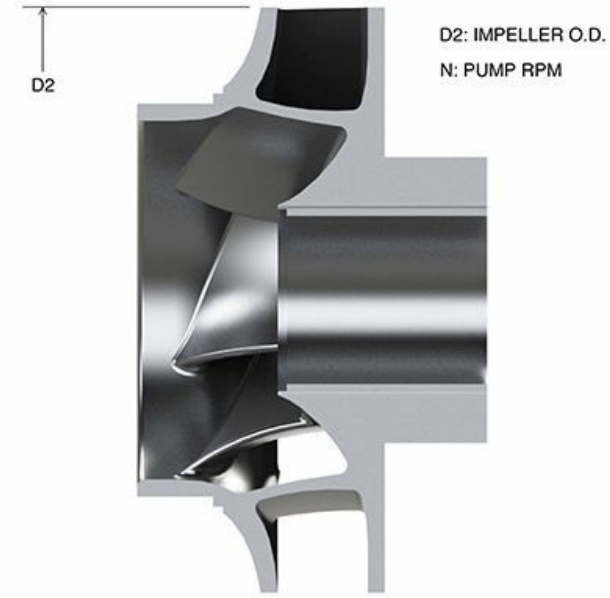

FIGURE 1: IMPELLER TIP SPEED

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Centrifugal pumps are sometimes used in environments where the pumped product contains suspended solids. While some pumps are specifically designed for solid handling or slurry applications, normal centrifugal pumps do not contain features to prevent performance degradation from the impact of solids.

There are a few key signs that a conventional centrifugal pump is suffering from erosive and abrasive wear. Here are assessment and mitigation strategies to be considered and applied when this occurs.

Particles are a problem in a centrifugal pump due to the way the machine adds velocity to the liquid as it passes up the impeller channels. In general, the higher the speed at the tip of the impeller, the more energy that is imparted to any particle that is suspended within the liquid. This energy can then cause damage to anything it impacts.

Source: https://www.pumpsandsystems.com/wear-centrifugal-pumps