Danger of using the wrong disc on angle grinders

WHAT HAPPENED

The Chief Engineer on board a marine aggregate dredger was in the process of carrying out a stock take of cutting and grinding equipment. During this check, two cutting discs were found that were designed for cutting stone, a task which is unlikely to be necessary on board. It was assumed that the discs had been purchased and/or received in error.

Selected ship's staff were shown the discs and asked if they noticed anything unusual. After some considerable time, the difference of intended material use was recognised. This simple test suggested that it was unlikley that, in normal circumstances, an operator would have verified that he was using right type of cutting disc for the material he was about to cut.

Due to strong centrifugal forces, it is probable that if stone cutting discs are incorrectly used for cutting steel, they would overheat and shatter, or due to the unintended cutting material, a kick-back would occur, where the angle grinder is violently thrust back. Both results have the potential to result in serious personal injury.

Image shows difference in discs

LEARNING POINTS / ACTIONS TAKEN

- On every occasion when using an angle grinder, ensure the cutting disc is appropriate to the material intended to service. Be aware that there are four main types of cutting disc design: steel, stainless steel, aluminium and stone.
- Ensure all cutting discs on board are manufactured to standard: EN 12413. This is a strict safety standard with specified requirements for bonded abrasive products. All discs should be clearly marked to reflect this.
- Cutting discs should be inspected prior to use to ensure they are within their age expired date (typically three years from date of manufacture). This should be clearly marked on the metal centre ring.
- If carrying cutting discs of varying intended designs, segregate these as much as possible.
- When working with cutting discs particular attention must be taken when handling them as the severity of a chip or crack can intensify rapidly when spinning at 80m/s.

LOCATION:	**AGGREGATE DREDGER**	**ALERT STATUS:**	**Normal**
ACTIVITY:	**MAINTENANCE & HOUSEKEEPING**	**DATE ISSUED:**	**11/10/2017 11:27:09**
SUB ACTIVITY:	**N/A**	**INCIDENT No:**	**01472**