

General Workplace Inspectorate

Promoting Safety and Health in the Workplace

ACCIDENT/INCIDENT ALERT

26 February 2004

Welder Struck by Disintegrated Disc

What Happened

A qualified welder with 11 years' welding experience suffered serious injuries when he was struck by pieces of a disintegrating grinding disc. He was operating a portable 230 mm angle grinder to cut box-section steel. As he was cutting the steel, the grinding disc disintegrated, and he sustained injuries including lacerations and a broken bone in his forearm.

In essence, the disc used was only rated at 4,200 rpm, placed on angle grinder rated at 6,600 rpm, ultimately leading to disc disintegration.

Circumstances

The disc in its true state is 356 mm x 3 mm x 25.4 mm, with a rating of 4,200 rpm designed for use on a cut-off saw or chop saw.

The 2500W, 230 mm angle grinder was rated at 6,600 rpm, and had not been through the company's in-service safety inspection and testing protocols – as per AS/NZS 3760: 2003: *In-service safety inspection and testing of electrical equipment*.

At the time, the employee was wearing a full-face shield, hearing protection, safety footwear and long-sleeved clothing.

Investigation

Following an OSH investigation and the company's own internal investigation, it became evident that the placing of worn or used cut-off



Pieces of the disintegrated disc (rated at 4,200 rpm and designed for a cut-off saw), after it was used on a 230 mm portable angle grinder rated at 6,600 rpm.

saw blades onto portable angle grinders is common practice.

The company issued the employee involved with a written warning for unsafe work practices.

The theme of the monthly safety meeting at the company was 'Grinder Safety Month' and made use of posters, open discussions, and employee forums to promote grinder safety. The company also conducted a full audit of all their grinders.

OSH issued written warnings to both the employer and the employee for breaches of Sections 6 and 19 of the Health and Safety in Employment Act 1992 respectively.

Recommendations

- Do not use cut-off saw blades on portable angle grinders.
- Ensure suitable protective clothing and equipment is worn whilst using a portable angle grinder.