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Australian Standard®

WELDING, BRAZING AND CUTTING OF METALS—GLOSSARY OF TERMS

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Australian Welding Research Association
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Melbourne and Metropolitan Tramways Board
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PREFACE

This standard was prepared by the Association's Committee on Welding Definitions and Symbols. It supersedes AS Z5, Glossary of Metal Welding Terms and Definitions, Part 1—1968—General Terms for Welding, Brazing and Cutting. It provides definitions of terms used in connection with welding, brazing, and cutting of metals. Process abbreviations which are commonly used in industry, e.g, MMAW, are included.

The standard is intended to serve as a basis for securing uniformity in terminology in the welding industry, standards, and welding education throughout Australia.

Major technical changes which have been introduced in this standard include the addition of several new terms particularly in relation to health and safety, and to new processes such as 'laser-beam welding'.

Terms and definitions relating to processes in general have been grouped in a separate section. These terms are repeated in other sections, as appropriate.

The layout of the previous edition has been retained so that terms relating to various processes are listed and defined in individual sections. However, the terms in each section have been arranged in a purely alphabetical sequence.

Figures illustrating more than one term or repeated terms have been grouped in an appendix. This arrangement was made to facilitate reference to these figures. Figures showing derivation of various processes are included.

In some cases, more than one term is listed. The first term (printed in bold type) should be regarded as the preferred term.

An alphabetical index of all defined terms completes the standard.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
WELDING, BRAZING AND CUTTING OF METALS—GLOSSARY OF TERMS

SECTION 1. DEFINITIONS OF PROCESSES

No	Term	Definition
1.001	**air-arc cutting**	Thermal cutting using an arc for melting the metal and a stream of air to remove the molten metal to enable a cut to be made.
1.002	**air-arc gouging**	The formation of a groove by means of air-arc cutting.
1.003	**aluminothermic welding**	A welding process in which an aluminothermic reaction takes place within a crucible and the resultant molten metal and aluminium oxide slag flows into a weld joint contained by a mould (see Fig. 1.1).

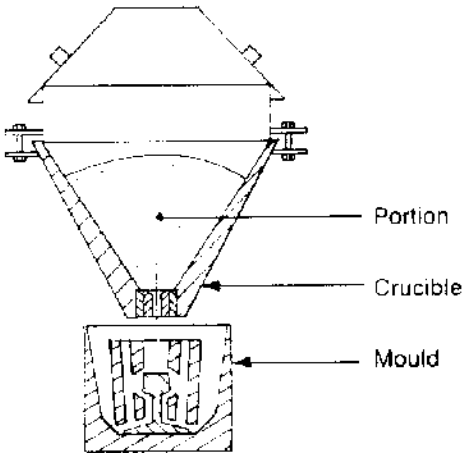

Fig. 1.1. ALUMINOTHERMIC WELDING

1.004	**arc braze welding**	A braze welding process in which the heat required is obtained from an electric arc.
1.005	**arc cutting**	Thermal cutting using heat of an arc between an electrode, which may or may not be metallic, and the base metal.
1.006	**arc-image welding**	Radiation welding where an optical system is used for focusing the emitted radiation from a high temperature source, such as a high pressure plasma arc, on to the work.
1.007	**arc spot welding**	Arc welding in which overlapping parts are joined by fusing through one component into the other and so producing a fusion spot weld at the faying surfaces.
1.008	**arc spraying**	Thermal spraying using, as a heat source, an electric arc between two consumable electrodes of a coating material, and a compressed gas which is used to atomize and propel the material to the substrate.
1.009	**arc stud welding**	Stud welding wherein the heat for the process is obtained from an arc between the stud base and the workpiece. The weld may be protected either by a ferrule, flux or gas shielding. The process is usually controlled automatically.
1.010	**arc welding**	Fusion welding in which heat for welding is obtained from an electric arc or arcs.
1.011	**atomic-hydrogen welding**	Arc welding in which molecular hydrogen, passing through an arc between two tungsten or other suitable electrodes, is changed to its atomic form and then recombines to supply the heat for welding or brazing.