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Australian Standard 1929–1977

TERMS USED IN NON-DESTRUCTIVE TESTING

STANDARDS ASSOCIATION OF AUSTRALIA
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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Associated Chambers of Manufactures of Australia

Australian Atomic Energy Commission

Australian Institute for Non-destructive Testing

Australian Welding Institute

Bureau of Steel Manufacturers of Australia

Department of Defence

Electricity Supply Association of Australia

Institute of Australian Foundrymen

National Association of Testing Authorities

N.S.W. Statutory Inspection Authority

Railways of Australia Committee

This standard, prepared under the direction of Committee MT/7, Non-destructive Testing of Metals and Materials, was approved by the Metals Standards Board on behalf of the Council of the Standards Association on 10 May 1976, and was published on 1 June 1977.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

AUSTRALIAN STANDARD

GLOSSARY OF TERMS USED IN NON-DESTRUCTIVE TESTING

AS 1929 – 1977

First issued (as AS B259, Parts 1 to 5) 1968
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PREFACE

This standard was prepared by the Association's Committee on Non-destructive Testing of Metals as a replacement for AS B259, Parts 1 to 5–1968 which it accordingly supersedes.

AS B259, which was BS 3683, Parts 1 to 5, endorsed as the Australian standard was issued in separate parts. The committee decided that Australian industry would be best served by the issue of one glossary which covered all the fields of non-destructive testing. This standard accordingly reflects that decision.

During preparation of the standard, BS3683, Parts 1 to 5, and the following publications were considered:

ISO/R 947	Explanations on the Significance of the Principal Radiographic Terms Used in ISO Recommendations
BS 3455	Glossary of Terms Used in Nuclear Science and Technology
ASTM E268–1968	Terms Relating to Electromagnetic Testing.

The committee also considered a publication issued by the Aerospace Industries Association (USA) 'Glossary of Terms Frequently Used in Non-destructive Testing'.

Terms which specifically relate to a particular field of testing have been placed in the appropriate section in alphabetical order, cross referencing being used where terms are related. General physical terms which have widespread use and are not confined to non-destructive testing have not been included.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

GLOSSARY OF TERMS USED IN NON-DESTRUCTIVE TESTING

SECTION 1. GENERAL TERMS

No	Term	Definition
1.1	acoustical testing	The method of non-destructive testing which uses acoustic energy usually within the range 1-5 MHz.
1.2	defect	A discontinuity whose size, shape, orientation, location or properties make it detrimental to the useful service of the product in which it occurs or which exceeds the accept/reject criteria for the given design.
1.3	discontinuity	Any imperfection or interruption in the normal physical structure or configuration of a product, such as cracks, laps, seams, inclusions, porosity or laminations. A discontinuity may or may not affect the usefulness of the product.
1.4	electromagnetic testing	The method of non-destructive testing which uses electromagnetic energy having frequencies less than visible light. It covers eddy current, magnetic field, leakage field pick up and direct current conduction tests.
1.4.1	eddy current testing	The method in which eddy current flow is induced and monitored in the product under test. Changes in current flow are subsequently analysed.
1.5	indication	A response or evidence of a response in non-destructive testing that requires interpretation to determine its significance.
1.6	magnetic particle testing	The method of non-destructive testing which involves the generation of a magnetic flux within magnetic materials, used to detect surface or near surface discontinuities. Testing also involves the application of suitable magnetic particles to the surface of the material to give an indication of the discontinuity.
1.7	penetrant testing	The method of non-destructive testing which involves the application of a penetrant to materials to detect and locate discontinuities such as laps, folds, cracks, porosity and fissures which are open to the surface. The method also involves the removal of excess penetrant, and, if necessary, the application of a developer to produce a visible indication of a discontinuity.