Australian Standard®

# Long-span corrugated steel structures

## Part 2: Design and installation

This Australian Standard was prepared by Committee CE/25, Corrugated Metal Drainage Pipes and Arches. It was approved on behalf of the Council of Standards Australia on 13 June 1989 and published on 13 October 1989.

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The following interests are represented on Committee CE/25:

Confederation of Australian Industry

Metal Trades Industry Association of Australia

National Association of Australian State Road Authorities

Railways of Australia Committee

University of Adelaide

University of Newcastle

Additional interests participating in preparation of Standard:

Main Roads Department, Queensland

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# Part 2: Design and installation

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# PREFACE

This Standard was prepared by the Standards Australia Committee on Corrugated Metal Drainage Pipes and Arches.

The principal purpose of this Standard is to lay down essential requirements for the design and installation of long-span corrugated steel structures. The design and installation requirements for long-span corrugated steel structures are distinct from the requirements for the design and installation methods set out in AS 2042, *Corrugated steel pipes, pipe-arches and arches — Design and installation.*

This Standard includes technical data relating to the load-carrying capacity of these structures.

CONTENTS

STANDARDS AUSTRALIA

# Australian Standard
# Long-span corrugated steel structures

## Part 2: Design and installation

## SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This Standard sets out requirements for a design method and the installation procedure for long-span corrugated steel structures with longitudinal stiffeners, including horizontal ellipses, inverted pear shapes, high profile arches, low profile arches, pear arches, and special shapes, having dimensions within the limits specified in Clause 2.2.

This Standard does not cover the design of longitudinal stiffeners, footings, and end stiffening collars.

NOTE: Requirements for the materials and manufacture of these structures are specified in AS 3703.1.

**1.2 REFERENCED DOCUMENTS.** The following documents are referred to in this Standard:

AS

1289 Methods of testing soils for engineering purposes

1289.C4.1 Part C: Soil classification tests—Determination of the linear shrinkage of a soil (Standard method)

1289.C6.1 Part C: Soil classification tests—Determination of the particle size distribution of a soil—Standard method of analysis by sieving

1289.E1.1 Part E: Soil compaction and density tests—Determination of the dry density/moisture content relation of a soil using standard compaction—Standard method

1289.E1.2 Part E: Soil compaction and density tests—Determination of the dry density/moisture content relation of a soil using standard compaction—Subsidiary method

3703 Long-span corrugated steel structures

3703.1 Part 1: Materials and manufacture

**1.3 DEFINITIONS.** For the purpose of this Standard, the definitions below applies.

**Cover**—the vertical distance between the top of the structure and—

(a) pavement surface of road;

(b) top of rail; or

(c) top of fill where (a) and (b) are not applicable.

**1.4 NOTATION** The quantity symbols used in this Standard are listed in Table 1.1.