Australian Standard™

Tilt-up concrete construction



This Australian Standard was prepared by Committee BD-066, Tilt-up Construction. It was approved on behalf of the Council of Standards Australia on 27th May 2003 and published on 23 June 2003.

The following are represented on Committee BD-066:

Association of Consulting Engineers Australia Australasian Fire Authorities Council Australian Building Codes Board Australian Council of Trade Unions Australian Pre-Mixed Concrete Association Cement and Concrete Association of Australia Concrete Institute of Australia Construction, Forestry, Mining and Energy Union Crane Industry Council of Australia National Precast Concrete Association Australia National Tilt-up Association Steel Reinforcement Institute of Australia Tilt-up Association of Australia Tilt-up Contractors Association of Australia Victorian WorkCover Authority WorkCover New South Wales

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 00260.

AS 3850-2003

Australian Standard™

Tilt-up concrete construction

Originated as AS 3850.1—1990, AS 3850.2—1990 and AS 3850.3—1992. AS 3850.1—1990, AS 3850.2—1990 and AS 3850.3—1992 revised, amalgamated and redesignated as AS 3850—2003.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd GPO Box 5420, Sydney, NSW 2001, Australia ISBN 0 7337 5337 X AS 3850—2003

PREFACE

This Standard was prepared by the Standards Australia Committee BD-066, Tilt-up Construction, to supersede AS 3850.1—1990, Tilt-up concrete and precast concrete elements for use in buildings Part 1: Safety requirements, AS 3850.2—1990, Tilt-up concrete and precast concrete elements for use in buildings Part 2: Guide to design, casting and erection of tilt-up panels and AS 3850.3—1992 Tilt-up concrete and precast concrete elements for use in buildings Part 3: Guide to the erection of precast concrete members in response to the call from industry to update them and regulatory authorities to expand the requirements relating to safety. The Standard is to be read in conjunction with AS 3600, Concrete structures.

Although the Standard has been written primarily to address the construction of concrete buildings using 'tilt-up' panels, the rules may be appropriate for other forms of precast concrete construction.

A 'Tilt-up' panel is defined as 'an essentially flat concrete panel; cast in a horizontal position, usually on-site; initially lifted by rotation about one edge until in a vertical or near-vertical position; transported and lifted into position if necessary; and then stabilized by bracing members until incorporated into the final structure'.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

In the Standard where the word 'shall' is used a mandatory requirement is implied and where the word 'should' is used the requirement is advisory.

This document includes commentary on some of the clauses of the Standard. The commentary directly follows the relevant clause, is designated by 'C' preceding the clause number and is printed in italics in a box. The commentary is for information and guidance and does not form part of the Standard.

CONTENTS

| | | Page |
|------------|---|------|
| SECTIO | ON 1 SCOPE AND GENERAL | |
| 1.1 | SCOPE | 5 |
| 1.2 | REFERENCED DOCUMENTS | |
| 1.3 | DEFINITIONS | |
| 1.4 | NOTATION | |
| 1.5 | USE OF LIMIT STATES DESIGN | |
| | | |
| | N 2 MATERIALS, COMPONENTS AND EQUIPMENT | 1.0 |
| 2.1 | GENERALWORKING LOAD LIMIT (WLL) | |
| 2.2 2.3 | MATERIALS | |
| | LIFTING, BRACING AND FIXING INSERTS | |
| 2.4 | | |
| 2.5 | RE-USABLE LIFTING EQUIPMENT | |
| 2.6 | BRACES | |
| 2.7 | LEVELLING PADS AND SHIMS | |
| 2.8 | CRANE AND RIGGING EQUIPMENT | |
| 2.9 | PROPRIETARY DOCUMENTATION | 18 |
| SECTIO | ON 3 DESIGN AND DOCUMENTATION | |
| 3.1 | GENERAL | 19 |
| 3.2 | PREPLANNING | |
| 3.3 | DESIGN STAGES | |
| 3.4 | BUILDING STABILITY | |
| 3.5 | DESIGN OF PANEL | |
| 3.6 | JOINT WIDTHS | |
| 3.7 | FOOTINGS. | |
| 3.8 | CONNECTIONS | |
| 3.9 | STRONGBACKS | |
| 3.10 | DOCUMENTATION | |
| 3.11 | TOLERANCES | |
| 3.11 | TOLLIGATOLL | |
| | N 4 CASTING | |
| | GENERAL | |
| 4.2 | LAYOUT | 31 |
| 4.3 | CASTING BED | |
| 4.4 | FORMWORK | |
| 4.5 | COMPACTION OF CONCRETE | |
| 4.6 | CURING AND RELEASE AGENTS | |
| 4.7 | LIFTING, BRACING AND FIXING INSERTS | 31 |
| 4.8 | WELDING | |
| 4.9 | TILT-UP PANEL IDENTIFICATION AND ORIENTATION | 32 |
| 4.10 | INSPECTION | 32 |
| SECTIO | NIS TRANSPORT CRANAGE AND EDECTION | |
| 5.1 | N 5 TRANSPORT, CRANAGE AND ERECTION TRANSPORT | 33 |
| 5.2 | STORAGE AND MULTIPLE HANDLING | |
| 5.2 | CRANES AND RIGGING | |
| 5.4 | ERECTION | |
| 5.5 | DAMAGE AND REPAIR | |
| 2.5 | | |



| The is a new provider i arenade and chare publication at the limit below | This is a free preview. | Purchase the | entire publication | at the link below: |
|--|-------------------------|--------------|--------------------|--------------------|
|--|-------------------------|--------------|--------------------|--------------------|

Product Page

- Dooking for additional Standards? Visit Intertek Inform Infostore
- Dearn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation