

## ENSURING DURABILITY AND AVOIDING LIABILITY FOR LINTELS

In 2002, a revised standard for built-in components for masonry construction was published by Standards Australia covering the durability requirements for lintels and shelf angles.

This standard, AS/NZS 2699.3:2002, defines durability requirements for these steel building components, and is one of the first performance-based (rather than prescriptive) standards published by Standards Australia.

A key component of the standard is the requirement that...

*'...there is no loss of function of the lintels or shelf angles, or adverse effect on the masonry, over a design life of not less than 50 years....' (Section 2.2).*

The durability criteria for lintels has been defined on the basis of salt (chloride) deposition in mg/m<sup>2</sup>/day. An R rating has been used to classify the corrosivity of the environment on this basis, ranging from R0 for nil salt deposition, to R4 where salt deposition exceeds 300 mg/m<sup>2</sup>/day.

To comply with the requirements of AS/NZS 2699.3, lintels have to be colour coded, stamped or otherwise indelibly marked with the appropriate durability classification. Hot dip galvanized lintels that have a galvanized coating complying with AS/NZS 4680:1999 are deemed to meet the durability requirements for any R3 durability classification or below.

No other process applied zinc coating will meet the R3 durability requirements and end-users should ensure that lintels meet the AS/NZS 2699.3 identification and durability requirements to ensure that product performance liability issues do not arise in the future.

To facilitate the management of the durability issues associated with its hot dip galvanized building products, Industrial Galvanizers Corporation has developed a Corrosion Mapping System (CMS) in partnership with the CSIRO that can define salt deposition data throughout Australia, along with other factors that impact of the durability of steel building components.

The CMS is accessible in Industrial Galvanizers web site at [www.indgalv.com.au](http://www.indgalv.com.au). Users need to register as a user (at no cost) to obtain access to the CMS.

Links to the Australian Geosciences web site enable accurate latitude and longitude co-ordinates to be obtained for specific locations, from which atmospheric corrosivity data can then be obtained when the co-ordinates are entered in the CMS.

An important durability issue where salt deposition occurs, is that sheltered locations (as the case with lintel installations), may have much higher corrosion stress than exposed locations. This occurs because there is no washing action from rain to remove accumulated salts from the surface.

This phenomenon is incorporated into the Industrial Galvanizers CMS by allowing the user to define the location of the component on the structure being assessed.

There is no limit of liability on builders or designers if unacceptable performance arises from the use of non-complying products. For this reasons, only lintels that comply with the durability and identification requirements of AS/NZS 2699.3:2002 should be specified. The application of this standard, in conjunction with the Industrial Galvanizers Corrosion Mapping System, will ensure that lintels specified with meet the durability requirement of at least 50 years defined in the standard.



*The new Australian Standard requires that lintel are labeled according to AS/NZS 2699.3.3 protocols. These INGAL Lintels, arch bars, flats and T-Beams illustrate the conforming identification requirements.*



## CORROSION MANAGEMENT

### PUBLISHER:

Industrial Galvanizers Corporation Pty Ltd

### EDITOR: John Robinson

312 Pacific Highway

Hexham NSW 2322

Ph: 02 4967 9088

Fax: 02 4964 8341

Email: tech@indgalv.com.au

Web: www.indgalv.com.au/cmmagazine

### LAYOUT & TYPESETTING:

Keyboard Solutions

6 Oak Close

Fletcher NSW 2287

Ph: 0407 110 307

Fax: 02 4950 1901

Email: leoni@keyboardsolutions.com.au

Web: www.keyboardsolutions.com.au

### PRINTING: Newcastle City Printers P/L

34 Metro Court, Gateshead

Newcastle NSW 2290

Ph: 02 4947 8111

Fax: 02 4947 8666

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*CORROSION MANAGEMENT is published for those interested in the specification, application and performance of protective coating systems.*

Editor.

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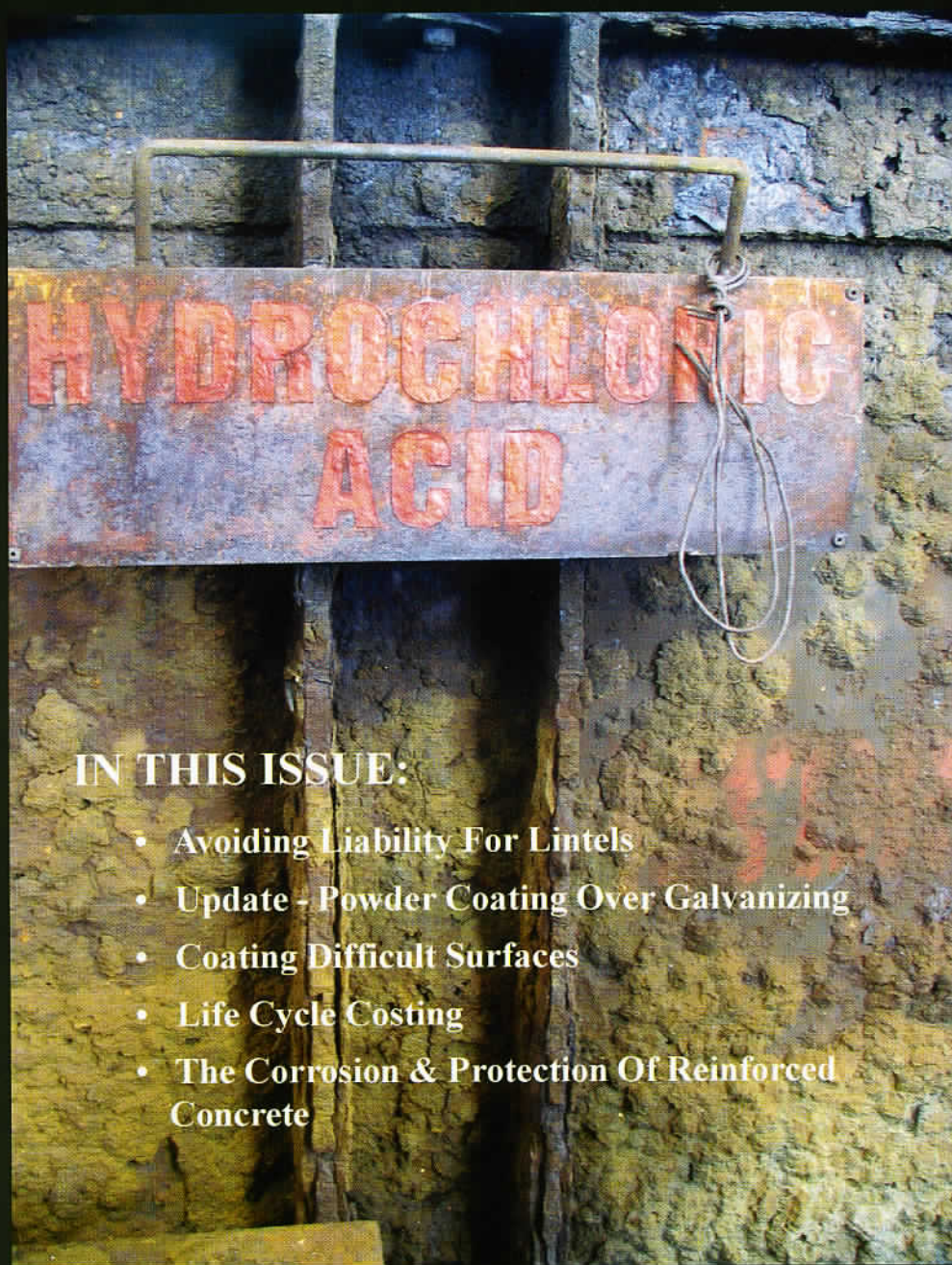
*This acid tank is a prime example of a very difficult surface for recoating. Severe steel corrosion, 24-hour operating environment, high levels of humidity and a chloride contaminated surface at low pH is a challenge for any industrial coating.*



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