CCTV USE IN CRACK INSPECTION REPORTS IN RESPECT OF CONCRETE PIPES

Concrete Pipe Association
of Australasia

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CCTV technology cannot measure cracks in concrete pipe in the manner described in AS/NZS4058, which means that any company claiming they can is misleading their customers and doing a significant disservice to CPAA member and other precast concrete product manufacturing companies.

CCPA Members have become aware that suppliers are offering services of inspections of constructed reinforced concrete pipe conduits in the Australian and or New Zealand markets using closed circuit television equipment and are issuing reports which purport to:

(a) Accurately record the presence of cracks to the interior of the inspected pipe.

(b) accurately quantify the width and length of the crack at the surface of the pipe wall; and

(c) Fully comply with WSA 05 (the current version existing at the time of reporting) including its requirements for limits of reporting crack size and the ability to demonstrate accuracy of the reported dimensions.

As these companies ought to be aware, the standard under which CPAA members manufacture their products, AS/NZS 4058–2007 Precast concrete pipe (pressure and non-pressure), Appendix C, part C4.3, Selection and Measurement of Crack Width provides for measurement of crack width and depth in a factory performance test and states that cracks shall be measured under the load test in the following manner:

> "*The maximum crack width shall be selected visually by normal or corrected vision. The crack shall be measured by inserting the tip of the appropriate feeler gauge to refusal at a depth of 3mm, radially and perpendicular to the pipe surface, along the length of the crack at consecutive points spaced at 50mm centres over a crack length of not less than 300mm.*"

CCTV operators cannot measure cracks in the manner described in AS/NZS4058 however the failure to state in issued CCTV reports that reported crack widths are not accurately measured, and are unable to be measured in accordance with AS/NZS 4058 can result in misleading and deceptive outcomes.

However, companies offering inspections of pipe using video and related equipment have been reporting that cracks can be accurately measured with CCTV equipment to the levels required by WSA 05 – 2020-4.1, and beyond.

By providing measurements of cracks to the nearest .0.1mm, and sometimes to three decimal places, the reporting suggests that the technology being utilised is capable of measuring to at least 0.1mm accuracy.

CPAA has made enquiries with CCTV camera suppliers and have been informed that the remote CCTV Operators and their inspection methodologies

(a) do not have access to, nor do they utilise, pipeline inspection technology that can measure crack widths to the accuracy and values that are being reported

(b) are incapable of measuring cracking to the degree of accuracy that has been represented in reports; and

(c) fail to adequately communicate the procedures used in the inspection to demonstrate the accuracy of crack width estimates reported as required by Section 2.7.2.1 of WSA-05 - 2020 Conduit Inspection Reporting Code of Australia - Fourth Edition – Version 4.1.

As such, any dimensions stated in the reports regarding the size of any cracks would be little more than unsubstantiated estimates, at best, contractors and asset owners have relied on the accuracy alleged in these CCTV inspection reports as the basis to carry out costly and destructive replacement of concrete pipe, some of which has ultimately been found to be within the permitted specifications.

CPAA members and their customers have incurred significant loss and damage stemming from the misrepresentations made in these reports which amount to misleading and deceptive conduct, in contravention of Section 18 of the Australian Consumer Law.

CPAA's members stand behind their products and the standards to which they are sold. However, the loss and damage arising from misstatements in inspection reports will not be tolerated and the CPAA will use its resources to support its members to take steps against organisations which act recklessly in respect of exaggerating the accuracy or nature of data which can be obtained from a remote inspection.