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INSIDE

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PRESSURE ON A
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A BURST DREAM

The trouble with
flexi-hoses

TEST YOUR PRODUCT ON THE RIG

Hydraulic performance for eaves and gutters allows manufacturers and suppliers to test product, **Dr Terry Lucke** explains.

Since 2015 we have been following the progress of the National Drainage Research Facility (NDRF), a development resulting from the collaboration between the Association of Hydraulics Services Consultants (AHSCA) and the Stormwater Research Group (SWRG) at the University of the Sunshine Coast (USC).

Earlier this year we reported on the development of a national testing protocol for grated balcony and roof drainage outlets as well as the first research project to put this testing protocol into use – the quantification of more than 20 Specialised Plumbing Supplies (SPS) proprietary grated roof and balcony drainage outlets under typical Australian rainfall conditions.

Research at the NDRF continues strongly and 2017 has seen the formation of the AHSCA Research Foundation – an initiative created to manage all current and future research projects and to develop national education programs for all AHSCA members. Mark Alexander accepted

the role of Chairman of the Foundation and will be supported by Directors Ben Rimmington and Chris Tritton. The Foundation aims to bring continued innovation and technical know-how to AHSCA members as well as the broader construction industry.

In July 2017, a new addition to the NDRF at USC, the Residential Roof Drainage test rig, was opened and showcased to the Australian Building Codes Board (ABCB) and the Australian Plumbing Codes Committee (APCC).

The Residential Drainage test rig was constructed as a result of an initial research study by the SWRG and the AHSCA into the hydraulic performance of the “Acceptable Overflow Measures” for eaves and gutters, as detailed in the 2016 National Construction Code (NCC).

The study assessed the suitability of the Acceptable Overflow Measures in real flow situations and found that there were limitations in the recommendations of the NCC that could have serious consequences for building flooding. The main outcome from the research study

was the recommendation for further comprehensive research to fully investigate the applicability and suitability of the Acceptable Overflow Measures recommended in the 2016 NCC of the Building Code of Australia.

Consequently, the Residential Roof Drainage test rig was constructed and a more comprehensive study is scheduled for 2018. Some initial testing of standard eaves gutter profiles identified that the minimum recommended fixing and bracketing is insufficient and could result in failure of the support system when subjected to the weight of the accumulated water in overflow [blocked] conditions.

The Residential Roof Drainage test rig will allow manufacturers and suppliers to test and certify the primary flow capacity and overflow capacities of their products. The rig incorporates two valley gutters and also a number of internal and external changes of direction that replicates an installed environment. Testing undertaken in other facilities has only dealt with straight sections of eaves gutter and



Residential Roof Drainage Test Rig developed by AHSCA and SWRG, University of the Sunshine Coast



Members of ABCB and APCC assess the outcomes of the test rig

therefore the hydraulic restrictions caused by corners and the incoming flow of valley gutters has not been observed and documented.

The Residential Roof Drainage Test Rig is fitted with roof sheets that can slide above the gutter and fascia

allowing for change over of gutter profiles without removal of the sheets.

Further to research and innovation, the AHSCA Research Foundation will provide a National Education Program for its members with the first training modules held in October 2017. Dr

Terry Lucke from the SWRG at USC will educate members on how to use the performance based design methods in the NCC and upon demonstrating proficiency members will achieve formal AHSCA Research Foundation Accreditation. Members will then have access to various design programs that are currently being developed by the AHSCA Research Foundation, enabling them to design quickly and efficiently. Results from the research undertaken at the NDRF will guide the direction of future courses offered by the Foundation.

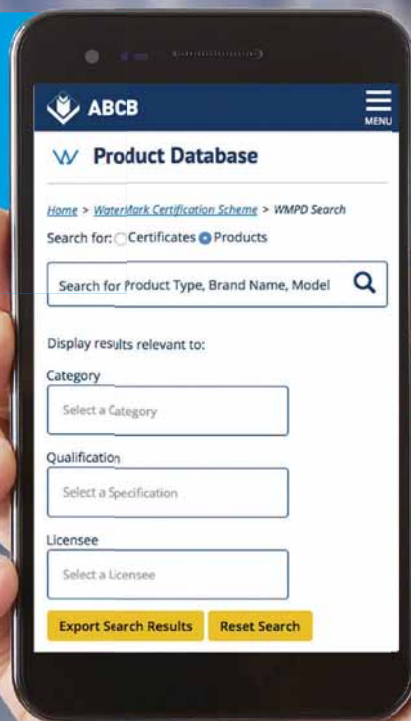
The Foundation is currently working in collaboration with a number of national and international product suppliers to test their products which will provide assurance that quoted flow rates and duties can be relied upon. ■

For more information visit the AHSCA Research Foundation website www.ahscaresearch.com.au

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