



STORMWATER AUSTRALIA

Stormwater Quality Improvement Device Evaluation Protocol (SQIDEP)

VERIFICATION CERTIFICATE

Applicant Information

Company Name	Holcim Australia
Company Address	18 Little Cribb St Milton QLD 4064
Website	www.humes.com.au
Contact Email	charles.kelly@holcim.com

Verified Technology

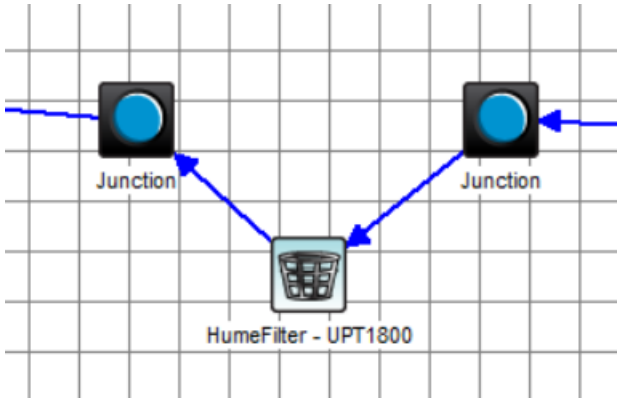
Product Title	HumeFilter UPT Family
SQIDEP Pathway	Local Field Trial Evaluation Pathway
Reviewed Documents	<p>The following documents form the basis of this independent evaluation:</p> <ul style="list-style-type: none">• SQIDEP Detailed Performance Report 31/01/23 (Issue 1) (superseded)• SQIDEP Detailed Performance Report 22/03/23 (Issue 2) (current)• Appendix C – iAuditor Sample Collection Reports_Timelapse Videos• Appendix D - ALS Lab testing documentation• Appendix E – Hydrographs• Appendix F - Statutory Declarations• Appendix H - Lab Testing Reports <p>The following files and documents were also provided:</p> <ul style="list-style-type: none">• Dirty Water Test.MP4• Filter_S04pc_Q0100_view1_hiRes.avi• Filter_S04pc_Q0100_view3_hiRes.avi• Hume Filter_Animation.MP4• Humes UPT.ppt• Stormwater Quality Lab Testing- Final Report• Manly hydraulic laboratory testing <p>Additional information was requested after a meeting between the Evaluators and applicants, chaired by a senior representative from Stormwater Australia including:</p> <ul style="list-style-type: none">• Additional laboratory Quality Assurance information in the form of Sample Receipt Notices• Sizing spreadsheets supplied on a confidential basis for the purpose of this review• Additional information on maintenance procedures <p>Further information was provided on 30th May 2023 related to the permeability of the pleated filter. This included:</p> <ul style="list-style-type: none">• Technical Data –Non-woven Filter• Cover letter from Matthew King of Filquip Pty Ltd regarding filter permeability

Technology Information

Applicant's Verified Performance Claims	Total Suspended Solids (TSS)	89 %
	Total Phosphorus (TP)	75 %
	Total Nitrogen (TN)	50 %
	Gross Pollutants	90 %



Test Stormwater Runoff	The presented runoff pollutant test results complied with the SQIDEP typical stormwater pollutant concentrations for urban environments. The device has therefore been tested within the pollutant loading ranges specified by SQIDEP v1.3 for typical urban environments (Urban Roads, Residential, Industrial, Commercial).								
Applicant's performance claims	<table border="0"> <tr> <td>Total Suspended Solids (TSS)</td> <td>89 % - Accepted</td> </tr> <tr> <td>Total Phosphorus (TP)</td> <td>75 % - Accepted</td> </tr> <tr> <td>Total Nitrogen (TN)</td> <td>50 % - Accepted</td> </tr> <tr> <td>Gross Pollutants</td> <td>90 % (Accepted by evaluators, but not quantitatively measured – see conditions)</td> </tr> </table>	Total Suspended Solids (TSS)	89 % - Accepted	Total Phosphorus (TP)	75 % - Accepted	Total Nitrogen (TN)	50 % - Accepted	Gross Pollutants	90 % (Accepted by evaluators, but not quantitatively measured – see conditions)
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Test Catchment Type	Urban Road								

Maintenance Performed during monitoring	The Holcim HumeFilter was maintained once during the monitored period. This maintenance involved a filter backwash and removal of captured gross pollutants and sediment. The filter cartridges were not replaced.
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Verified method to model in MUSIC	Modelling a HumeFilter in MUSIC is as follows:																				
																					
	Bypass (TFR) parameters should be set as appropriate for each size of device in the family.																				
	<table border="1"> <thead> <tr> <th>Device Designation</th> <th>TFR (L/s)</th> <th>Pollutant Removal</th> </tr> </thead> <tbody> <tr> <td>UPT1200</td> <td>12</td> <td rowspan="5">TSS 89% TP 75% TN 50% Gross Pollutants 90%</td> </tr> <tr> <td>UPT1800</td> <td>30</td> </tr> <tr> <td>UPT2400</td> <td>55</td> </tr> <tr> <td>UPT3000</td> <td>100</td> </tr> <tr> <td>UPT3600</td> <td>160</td> </tr> </tbody> </table>	Device Designation	TFR (L/s)	Pollutant Removal	UPT1200	12	TSS 89% TP 75% TN 50% Gross Pollutants 90%	UPT1800	30	UPT2400	55	UPT3000	100	UPT3600	160						
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Conditions	<p>The limitations of the acceptance of these claims include:</p> <p>The results are reliant on the maintenance of the device being consistent with the manufacturer’s guidelines.</p> <p>The life expectancy of the media should be regularly monitored and replaced in accordance with the Manufacturer’s Technical Guidelines/Maintenance Manual.</p> <p>The tested device was configured “offline” with flows exceeding the TFR externally bypassing the device. Alternative installations may result in different outcomes.</p> <p>While the device should be capable of capturing Gross Pollutants it has not been optimized for this function</p>
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Independent Reviewers

Evaluator	Evaluator
Andrew Allan	Rod Wiese
 AFFLUX CONSULTING STORMWATER MANAGEMENT SOLUTIONS	

Issue of Verification Certificate

Acceptance by SQIDEP Governance Panel	24-Aug-2023
Acceptance by Stormwater Australia Board of Directors	25-Aug-2023
Verification Issued	31-Aug-2023
Stormwater Australia Verification Certificate Number Reference	SA-2023/07a-VC

Verified under SQIDEP Version 1.3

Field Evaluation Pathway

