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Order	Quality control contract VTT-V-41562-09, 9.11.2009
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Task **Quality control and supplementary tests of mixer box BOX300**

Product and test sample

Mixer boxes BOX300 are manufactured from 1,5 mm stainless steel in different dimensions. The mixer box is meant for inspectable concealed installations of water mixers and its pipe connections in order to prevent water damages. BOX300 has SP Certification:s type approval SC0483-09.

Joramark Oy delivered a mixer box BOX300, dim. 300x300x80 with bushings Merika 2219 for 28 mm or 25 mm protection pipe (5 pieces) och plugs Merika (4 pieces). For tightness testing the screw fastening cover plate of the service opening had no openings for a mixer. The mixer box delivered with an mounting instructions (sample received 6.6.2016), Fig. 1 and 2.

Inside surface of the backside:



70100-REV01

Outside of the front part:
BOX 300x300 etulevy

Fig.1. Marking.



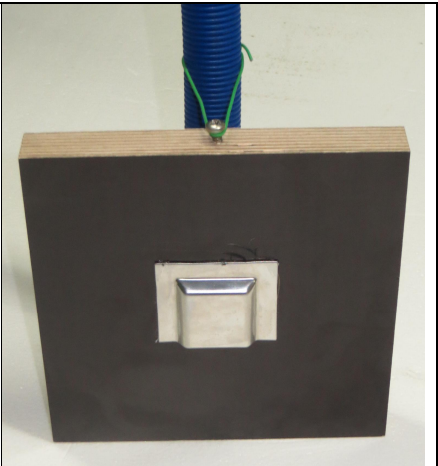
Fig.2. Test sample without a cover plate in the service opening, three bushings with protection pipes mounted.

The test results relate only to the tested samples.

Test method

Visual inspection and the following tests from *Pipe in tube systems. Nordtest Method NT VVS 129. 2002*: 6.4.9 Watertightness by internal splashing, 6.4.10 Watertightness of bushings, 6.4.11 Water capacity of the drain and 6.4.12 Resistance to pull out of the protection pipe.

Water capacity measurement of the drain:

<p>Water was supplied to the mixer box so that water level was steady 10 mm under the lower edge of the service opening. Supplied flow rate was measured by a magnetic flow meter. Drain pipe: - 28 mm protection pipe, length: 2,0 m, - height difference between the middle level of the mixer box and pipe end below cover plate 1,0 m</p> <p><i>Fig.3. The cover plate for covering the end of the drain pipe, mounted in plywood for measuring water capacity of the drain.</i></p>	
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Result

The mixer box was identical to the test sample in Ref. /1/.

Test (NT VVS 129)	Result	Requirement
6.4.9 Watertightness by internal splashing	no leakage	No
6.4.10 Watertightness of bushings	no leakage ¹⁾	leakage
6.4.11 Water capacity of the drain	0,40 l/s	≥ 0,25 l/s
6.4.12 Resistance to pull out of the protection pipe 100 N, 5 min	no slipping ²⁾ passed	No slipping

1) 4 samples, 2) Pull out test: 28 mm och 25 mm protection pipes: both 2 samples

Remark: Bushing Merika 2219 is included in Meriser Oy:s certificate for components of the protection pipe system, testing in accordance with *Nordtest Method NT VVS 129*, product certificate VTT-C-10979-14

Espoo, 6.7.2016

Jukka Määttä

Jukka Määttä
Senior Expert

Ville Hietanen

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Expert

Reference

1 Quality control of mixer box BOX300, quality control report VTT-Q-00087-06-14, 25.3.2014 (in Swedish)

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The test results relate only to the tested samples.