

AP 21088

TESTING ANKERSTUY JOINERY COATINGS ON QWOOD BEADS



1. OBJECTIVE

Qwood profiles are rigid timber composite extrusions of PVC blended with wood fibres. When used for glazing beads or equivalent applications these beads will be overcoated with the same coating systems as used for the timber joinery. For that reason, the adhesion and durability of all relevant joinery products of Anker Stuy Coatings UK were tested and compatibility of these systems with Qwood beads was evaluated.



2. SYSTEMS TESTED

The following products:

- ✓ 17-0535 Hydrolux Base Primer (white and dark grey RAL 7026)
- ✓ 17-0540 Hydrolux Filler Primer (white)
- ✓ 17-0648 Hydrolux Topcoat (white and dark grey RAL 7026)

Were tested in the following systems:

Code	1st coat	2nd coat	3th coat
A	17-0540- white	17-0648- white	17-0648- white
B	17-0540- white	17-0648- ral 7026	17-0648- ral 7026
C	17-0535- white	17-0648- white	None
D	17-0535-ral 7026	17-0648- ral 7026	None
E	17-0535- white	17-0648- white	17-0648- white
F	17-0535- ral 7026	17-0648-000 ral 7026	17-0648- ral 7026
G	17-0648- white	17-0648- white	None
H	17-0648 ral 7026	17-0648-ral 7026	None

3. TEST PROCEDURE

Surface preparation:

- ✓ None
- ✓ Sanding with Scotch Brite 320, 48 hr between sanding and spraying
- ✓ Sanding with Scotch Brite 320, 7 days between sanding and spraying

Paint application: by airmix spraying with a total dry film thickness 150 µm, split equally over the layers.

Paint drying:

- ✓ 1st coat: 10 min flash off, 10 min 25°/0,5 m/s air speed, 20 min IR + 0,5 m/s air speed, 10 min cool down
- ✓ 2nd coat: 10 min flash off, 10 min 25°/0,5 m/s air speed, 20 min IR + 0,5 m/s air speed 10 min cool down
- ✓ 3th coat: 10 min flash off, 10 min 25°/0,5 m/s air speed, 20 min IR + 0,5 m/s air speed 10 min cool down
- ✓ 1 week at 15°/50 % RH



Testing:

- ✔ After drying the beads underwent the following tests to simulate harsh winter conditions:
- ✔ 72 hr immersion in water + 24 hr freezing at -18°
- ✔ This is repeated 3 times, after each cycle samples are assessed visually for blisters or other defects. Weight increase after each cycle is recorded as a measure of water uptake.
- ✔ After 3 cycles the adhesion by X-cut tape test is performed.
- ✔ Hereafter samples are subjected to 3 more immersion-freezing cycles.



4. RESULTS

4.1 Blistering

No pretreatment

Code	After cycle 1	After cycle 2	After cycle 3	After cycle 4	After cycle 5	After cycle 6
A	No blisters	No blisters	No blisters	Not tested	Not tested	Not tested
B	No blisters	No blisters	No blisters	Not tested	Not tested	Not tested
C	No blisters	No blisters	No blisters	Not tested	Not tested	Not tested
D	No blisters	No blisters	No blisters	Not tested	Not tested	Not tested
E	Few very small	Few very small	Few very small	Not tested	Not tested	Not tested
F	Few very small	Few very small	Few very small	Not tested	Not tested	Not tested
G	Few very small	Few very small	Few very small	Not tested	Not tested	Not tested
H	No blisters	No blisters	No blisters	Not tested	Not tested	Not tested

Sanding + 48 hr waiting before spraying

Code	After cycle 1	After cycle 2	After cycle 3	After cycle 4	After cycle 5	After cycle 6
A	No blisters	No blisters	No blisters	No blisters	No blisters	No blisters
B	No blisters	No blisters	No blisters	No blisters	No blisters	No blisters
C	No blisters	No blisters	No blisters	No blisters	No blisters	No blisters
D	Few very small	Few very small	Few very small	Few very small	Few very small	Few very small
E	No blisters	No blisters	Few very small	Few very small	Few very small	Few very small
F	No blisters	No blisters	No blisters	No blisters	No blisters	No blisters
G	No blisters	No blisters	No blisters	Few very small	Few very small	Few very small
H	No blisters	Few very small	Few very small	Few very small	Few very small	Few very small

Sanding + 7 days waiting before spraying

Code	After cycle 1	After cycle 2	After cycle 3	After cycle 4	After cycle 5	After cycle 6
A	No blisters	No blisters	No blisters	No blisters	No blisters	No blisters
B	No blisters	No blisters	No blisters	No blisters	No blisters	No blisters
C	No blisters	No blisters	No blisters	No blisters	No blisters	No blisters
D	No blisters	Few very small	Few very small	Few very small	Few very small	Few very small
E	Few very small	Few very small	Few very small	Few very small	Few very small	Few very small
F	No blisters	No blisters	No blisters	No blisters	No blisters	No blisters
G	Few very small	Few very small	Few very small	Few very small	Few very small	Few very small
H	Few very small	Many very small	Many very small	Many very small	Many very small	Many very small

4.2 Adhesion

No pretreatment

Code	After cycle 3
A	0
B	0
C	0
D	1
E	0
F	0
G	0
H	0

Scale:

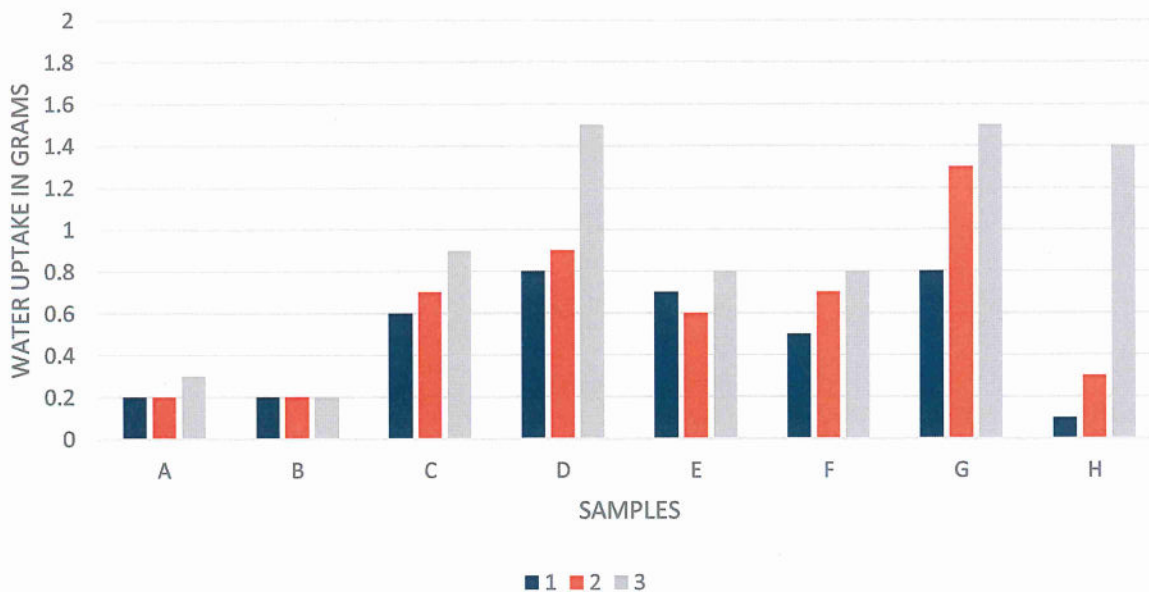
0=perfect

5=complete loss of adhesion



4.3 Water-uptake

Weight increase after cycle 1, 2 and 3



5. CONCLUSIONS

- ✓ 17-0535 Hydrolux Base Primer and 17-0540 Hydrolux Filler have excellent adhesion after immersion in water and show no to very limited blistering if finished with one coat of topcoat. The grey 17-0535 Hydrolux Base Primer with two coats of grey 17-0648 topcoat also did not result in blisters.
- ✓ 17-0648 Hydrolux topcoat in two coats directly applied on Qwood shows an excellent adhesion but shows development of small blisters with increasing cycles of water immersion-freezing.
- ✓ Pretreatment has only a minor impact on blistering. Sanding and overcoating within 48 hrs seems to reduce the risk of blistering for those systems that have a tendency for small blister development.

6. ADVICE FOR SPECIFICATION

If Qwood beads are used it is recommended to apply one or two coats of either 17-0535 Hydrolux Base Primer or 17-0540 Hydrolux Filler Primer followed by one or 2 coats of 17-0648 Hydrolux Topcoat.

When using Qwood beads, Anker Stuy Coatings recommends applying one or two coats of either 17-0535 Hydrolux Base Primer or 17-0540 Hydrolux Filler Primer, followed by one or 2 coats of 17-0648 Hydrolux Topcoat Semi-matt (Hydrolux topcoat also available in 17-0649 semi-gloss and 17-0650 gloss). Through our extensive in-house testing, as well as live weathering trials, we have been able to establish that our materials work very well during the vulnerable curing phase, on standard timber, engineered timbers and now on Qwood too. If you are considering Qwood as an alternative to timber beading, then you should feel confident in choosing Anker Stuy Coatings to finish your joinery work.

Anker Stuy Coatings Ltd
Units 25 and 26 Alpha Business Park
Peterborough
PE3 8AF
United Kingdom
Tel. +44 (0) 1733 215 444

www.ankerstuy.com

Anker Stuy Coatings BV
Hellingwal 1
8407 EM Terwispe
Netherlands
Tel. +31 (0) 513 465

www.ankerstuy.nl

