



# Technical Support Report

Ref: INT14/26

## Adhesion of Omnia to synthetic glazing beads

### Scope :

Examples of synthetic glazing beads manufactured by Q-Wood were obtained to evaluate the adhesion properties of clear and pigmented Omnia finishes on these materials.

### Conclusions :

Whilst the cross cut adhesion of all combinations of pre-treatment and finishing system of synthetic glazing bead was on the whole very good, the coin scrape tests did reveal some significant results.

The pre-treatment prior to coating did not have any positive or negative affect on the level of adhesion achieved.

The coin scrape resistance of Clear Omnia system was found to be much poorer than the two pigmented systems and therefore is **not** considered to be suitable for use on these synthetic beads.

The two pigmented Omnia systems were found to have very good coin scrape resistance, consequently are considered to be suitable for use on the Q-Wood glazing beads.

T. Miles 28/01/2015

#### Investigation :

The glazing beads obtained from Q-Wood were cut into convenient lengths for testing. The beads were prepared for coating as follows :

- No preparation;
- Solvent wipe with X001 . Fast Thinners
- Sand with 240 grit
- Sand with 240 grit and wiped with X001 . Fast Thinners

The finishing systems used on the beads were as follows :

- 2 coats 8C3/000 . 30% Clear Omnia Topcoat,
- 1 coat 8JP/000 - Omnia Prime, 2 coats 8W3/000 . 30% White Omnia Topcoat
- 2 coats 8W3/000 . 30% White Omnia Topcoat

All products were applied at a wet film thickness of at least 150 microns.

The coated beads were allow to dry and stored under ambient conditions. The adhesion of the finishing systems was determined at 7 and 28 days after application by cross cut and coin scrape as described below :

#### Cross Cut Test (based on BS 3962 Part 6)

A grid of two sets of 11 lines, 2mm apart at right angles is cut into the finish using a sharp blade so that it just penetrates the substrate. The lines of the grid run at 45 degrees to the grain of the substrate. Any loose material is gently removed with a soft brush and the appearance of the cuts/amount of material removed is examined using a hand lens, then rated on by the rating scale given below.

Rating	Appearance of test area
5	Cuts are smooth, no finish removed except for small chips at the intersection of the cuts and an occasional small chip along the cut
4	Finish removed at intersections and intermittently along the cut
3	Finish consistently removed along the cuts
2	Finish removed along the cuts and completely from one or more of the squares, but less than 50% of them
1	Finish removed completely removed form more than 50% of the squares.

#### Coin Scrape

A milled edged coin (£1) is hand held at an angle of 45° on the surface of the finish, then pulled over the surface with only light downward pressure. If there is no damage/removal of the coating, the test is repeated using more downward pressure.

The result is rated using the rating scale given below.

Rating	Appearance of test area
5	No removal coating with force
4	Slight removal of coating with force
3	Moderate removal of coating with force
2	Moderate removal of coating with minimal force
1	Finish removed completely removed with minimal force

Results :

### 7 Day Tests

System	Cross Cut Adhesion			
	Glazing Bead Preparation			
	None	Solvent Wipe	Sand	Sand & Solvent wipe
Clear Omnia Coat on Coat	5	5	5	5
8JP/000 . Primer, 2 Coats White Topcoat	5	5	5	5
White Topcoat Coat on Coat	5	5	5	5

System	Coin Scrape			
	Glazing Bead Preparation			
	None	Solvent Wipe	Sand	Sand & Solvent wipe
Clear Omnia Coat on Coat	2	2	3	2
8JP/000 . Primer, 2 Coats White Topcoat	5	5	5	5
White Topcoat Coat on Coat	5	5	5	5

### 28 Day Adhesion Tests

System	Cross Cut Adhesion			
	Glazing Bead Preparation			
	None	Solvent Wipe	Sand	Sand & Solvent wipe
Clear Omnia Coat on Coat	5	5	5	5
8JP/000 . Primer, 2 Coats White Topcoat	5	5	5	5
White Topcoat Coat on Coat	5	5	5	5

System	Coin Scrape			
	Glazing Bead Preparation			
	None	Solvent Wipe	Sand	Sand & Solvent wipe
Clear Omnia Coat on Coat	2	2	2	2
8JP/000 . Primer, 2 Coats White Topcoat	5	5	5	5
White Topcoat Coat on Coat	5	5	5	5