

THE USE OF REPAIR MATERIALS

The following repair materials are included in this publication on the basis of SKH-Publication 02-03 'Basis of assessment for fillings'.

This notification is a supplement to the repair and the levelling of imperfections in the timber, as included in BRL 0801 'Wooden façade elements' and the KVT.

The following characteristics of wood repair materials have been assessed:

- workability;
- process time;
- filling;
- hardening;
- modularization;
- bonding;
- shrinkage;
- ageing;
- repaint ability.

Table 1 Suitable equalization materials

Product name	Supplier
Dry Fix®	Repair Care International B.V.
Dry Flex ®	Repair Care International B.V.
Sikkens Componex WR Fast	AKZO NOBEL Decorative Coatings
Polymix Wood Bond & repair fast MBR-B	Destil
Polymix Wood Bond & repair WBR-IB	Destil
Anko houtreparatie EL	Anker Stuy Verven B.V.
Anko houtreparatie FL	Anker Stuy Verven B.V.
Anko houtreparatie XL	Anker Stuy Verven B.V.
Zusex Flexcompound	Nelf Lakfabrieken B.V.
Zusex Renovatiecompound	Nelf Lakfabrieken B.V.
Polyfilla Pro W300	Akzo Nobel Decorative Coatings
Polyfilla Pro W310	Akzo Nobel Decorative Coatings
Pro Gold Quickrepair	PPG
HMB Profmix Hout sneldrogend 50 ml / 200 ml	HMB Profit tools

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Table 2 Suitable means of injection

Table 3 Suitable repair materials for pores

Kodrin PF	AKZO NOBEL Decorative Coatings (25 October 2012/v009)



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Basis for the Assessment of Fillers

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Basis for the assessment of fillers

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Basis for the assessment of fillers

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Basis for the assessment of fillers

1 INTRODUCTION

This document serves as the basis for the acceptance of fillers within the framework of the SKH-KOMO[®] certification regulations for wooden façade elements and wooden exterior doors.

It is expected of the filler that it, if finished in accordance with BRL 0801/0803, does not show any defects such as cracks and/or checks or detachment of the timber during a period of two years.

2 DEFINITIONS

Levelling	The repair of small, superficial defects smaller than 12 cm ³ in planed or already painted timber by filling these with a product for levelling.
Injecting	The repair of open joints.
Reparation	The repair of defects in planed or already painted timber that does not comply with the definition of levelling.
Filling	Levelling, injecting or repair.
Levelling agent	Agent meant for levelling (< 12 cm ³).
Injection agent	Agent meant for injecting.
Repair agent	Agent meant for repairing (> 12 cm ³).
Filler	Product meant for levelling, injecting or repairing.

Remark: It is possible that a product can be divided into various categories.

Within the framework of this basis of assessment fillers are assessed for their suitability for levelling and/or injecting. The suitability for repairs (the repair of larger defects) has not been tested.

3 AREA OF APPLICATION

This basis of assessment is meant for the testing of solvent-free or low VCO fillers for application in the woodworking industry. It is emphasized that it usually only relates to emergency products, that are only used when defects appear during the production process.

Products intended for the repair (> 12 cm³) and products intended for application on the building site fall outside the scope of this basis of assessment.

4 REQUIREMENTS AND METHODS OF TEST

The tests described shall be carried out by a professional and independent laboratory. The test shall be carried out on the timber species on which the filler will be applied.. All samples are quarter-sawn/semi-quarter sawn and defect free. In case of a positive test result the product shall be deemed suitable for all timber species allowed for joinery (see SKH-Publication 99-05). Before the start of the tests the timber shall be conditioned to a moisture content in accordance with SKH Publication 99-05.

A difference is made between levelling and injection agents. For both types a test program shall be prescribed.

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The filler shall be assessed on the following aspects:

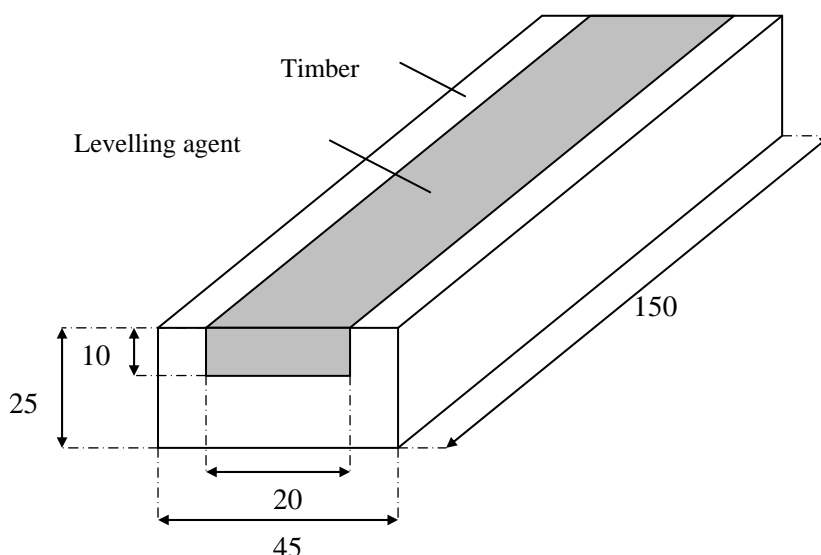
	Levelling agents	Injection agents
Repaint ability (4.1)	X	X
Shrinking and swelling behaviour (4.2)	X	X
Aging (4.3)	X	-
Practical usefulness (4.4)	X	X
Processing instruction (4.5)	X	X

4.1 Repaint ability

The repaint-ability of the product shall be tested with film forming coatings. The manufacturer indicates which pre-treatment is required. Two types of primer systems are used i.e. an acrylic and an alkyd emulsion. Both paint systems used shall comply with the requirements laid down in BRL 0814.

4.1.1 Samples

Only one timber species shall be used due to the fact that the repaint ability of the filler is tested. The construction of the samples is as follows:



Ten samples shall be finished in accordance with the instructions of the supplier. The samples shall be provided with a layer of paint (five samples per type of paint) after the drying period stated by the supplier. Subsequently the samples shall be dried during 7 days at 23°C and 50% RH.

4.1.2 Test method

The fixation shall be determined after drying of the paint in accordance with SKH Publication 05-01 "Determination of the adhering of paint on timber".

4.1.3 Requirements

The fixation of 4 of the 5 samples per type of paint shall be class 1 or better.

4.2 Shrinkage and swelling behaviour

In case the shrinkage and swelling behaviour of the product deviates too much from that of the timber it could peel off from the substratum.

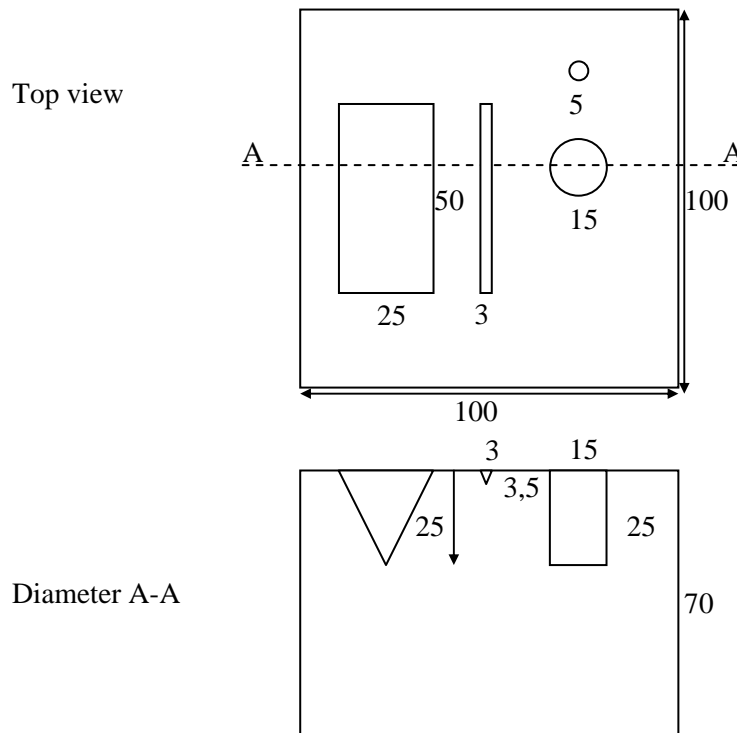
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4.2.1 Samples

4.2.1.1 Samples for the benefit of levelling agent

Three samples per timber species (quarter sawn/semi-quarter sawn) are manufactured in accordance with the following picture.

The cut-aways are filled with the levelling agent. After the drying time prescribed by the supplier the cross-sections of the samples shall be sealed with an epoxy. The samples are



subsequently provided with a paint system in accordance with BRL 0814, colour RAL 7016, applied in 2 layers with a total dry layer thickness of 100 μm .

4.2.1.2 Samples for the injection agent

Three samples per timber species to be tested are manufactured in accordance with Appendix 1, part 2c of BRL 2339, provided that half of the joint has only been glued; that part not glued is injected with the injection agent. After the drying time prescribed by the supplier the cross-sections of the samples shall be sealed 2 times with an epoxy. The samples are subsequently provided with a paint system in accordance with BRL 0814, colour RAL 7016, applied in 2 layers with a total dry layer thickness of 100 μm .

4.2.2 Test method

4.2.2.1 Test method for the levelling agent

The samples are exposed to the following cycle for a period of 3 weeks.

- 8 hours spraying with water $15 \pm 2^\circ\text{C}$.
- 8 hours radiation to an uniform surface temperature of 75°C .

This cycle shall be repeated five times.

4.2.2.2 Test method for the injection agent.

The samples shall be exposed for a period of 3 weeks in accordance with the cycle described in 4.2.2.1. to the accelerated weathering cycle as described in BRL 2339.

Basis for the assessment of fillers

4.2.3 *Requirements*

Cracking or detachment from the substratum may not take place. A limited amount of loss in volume (maximum 0,2 mm of settling) is allowed.

4.3 *Aging*

The product shall have sufficient resistance to ageing. The influences of UV-light, water and temperature is observed.

4.3.1 *Samples*

Three pieces are manufactured as described in § 4.2.1.1.

4.3.2 *Test method*

The samples are positioned during 12 months in an exterior exposition. After 12 months the samples are assessed

4.3.3 *Requirements*

No defects.

4.4 *Practical usefulness*

The product shall have to be processed in practice in a simple way. This implies among other things that the hardening time shall fit in the production process of the woodworking industry.

4.5 *Processing instruction*

The processing instruction shall contain at least the following information:

- ARBO
 - measures to protect the safety and health of the employees
- Storage
 - method of storage
 - minimum and maximum climatic conditions
 - maximum period of storage
- Processing
 - suitability for various timber species
 - controls to be executed (before, intermediate)
 - pre-treatment of substratum
 - preparation of product
 - climatic conditions during processing
 - sequence of actions
 - hardening time and pot life
 - processing of waste
 - measures to be taken into consideration
- Follow-up phase
 - sandpapering properties
 - repaint-ability
 - fixation
 - strength
 - maintenance

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5 LIST OF DOCUMENTS REFERRED TO

ASTM D 3359	Standard Test Methods for Measuring Adhesion by Tape Test
BRL 0801	Wooden façade elements
BRL 0803	Wooden exterior doors
BRL 0814	Film forming coatings for application on timber
BRL 2339	Adhesives for non-load bearing applications, including Correction sheet
KVT	Quality of wooden façade elements – Description of materials and semi-manufactured products for the assembly
SKH-Publication 99-05	List of timber species approved for the application in joinery
SKH Publication 05-01	Determination of the fixation of paint on timber