

BRL 4104
01-02-2003

NATIONAL ASSESSMENT GUIDELINE
FOR THE
®KOMO PROCESS CERTIFICATE
FOR
THE INSTALLATION OF FACADE CLADDING USING ADHESIVE SYSTEMS

Accepted by the Harmonisatie Commissie Bouw
of the Stichting Bouwkwiteit on 22 May 2003

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GENERAL INFORMATION RELATING TO THIS PUBLICATION

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1 INTRODUCTION

The requirements stipulated in this BRL are used by the certification institutes approved by the Raad for Accreditatie (Dutch Council for Accreditation, RvA) in handling applications for, and the maintenance of, ®KOMO process certificates for “The installation of facade cladding using adhesive systems”.

The quality declaration issued is called a ®KOMO process certificate.

In addition to the requirements laid down in this BRL, the certification institutes set further requirements in the form of general procedural certification requirements, as laid down in the certification regulations of the institute concerned.

1.1 Subject

The ®KOMO process certificate concerns the installation of facade cladding using adhesive systems in exterior applications. No distinction is drawn between the horizontal or vertical installation of cladding panels, apart from in the calculations. Within the framework of this BRL, the installation of the cladding is said to be horizontal if the angle between the plane of the facade cladding and the vertical is greater than 15°.

The installation of facade cladding using methods other than adhesive systems (for example, using screws) does not fall within the scope of this BRL.

Note: Although this BRL has been developed for exterior applications, it may also serve as a guideline for interior applications.

2 PROCEDURE FOR OBTAINING A PROCESS CERTIFICATE

2.1 Start

The applicant provides the data required for drawing up the technical specifications. Furthermore, it indicates the statements to be included in the process certificate and provides grounds for these statements.

2.2 Admission examination

The certification institute examines whether the applicant meets the requirements given in chapters 4 and 5 of this present BRL. A report of the admission examination is drawn up on which the ®KOMO process certificate is based.

2.3 Assessment of the applicant's quality system

The certification institute examines whether the applicant's quality system corresponds with the requirements stipulated in chapter 6 of this present BRL.

2.4 Issue of the process certificate

The process certificate is issued, in accordance with the certification regulations of the certification institute, if the admission examination (2.2) is successful and the applicant's quality system (2.3) is approved.

2.5 External quality control

After issue of the process certificate, the certification institute carries out inspections as described in chapter 7 of this present BRL.

3 DEFINITIONS

Substructure	Structure between the adhesive and the underlying structure.
Underlying structure	The part of the building which carries the facade cladding.
Fixing process	Application of the adhesive and fixing of the facade cladding onto a substructure.
Cleaner	Agent for cleaning and/or degreasing the surfaces to be glued together to improve the strength of the bond.
Facade cladding	Panel on the facade which serves as protection from the rain and which is not transparent.
Adhesive primer	Agent which ensures that the bond between the adhesive and the facade cladding and/or between the adhesive and the substructure is strong enough.
Adhesive	Fixing agent which, for a sustained period, absorbs all the loads and deformation to which the facade cladding is subjected and transfers this to the substructure.
Adhesive system	A combination of substructure, adhesive and cladding and, if applicable, also primer(s) and/or cleaner(s) and assembly tape which are geared to one another.
Assembly tape	Double-sided adhesive tape of a specific thickness which, on the one hand, ensures that the thickness of the mass of adhesive is consistent and, on the other, that temporary adhesion is guaranteed while the adhesive is hardening.
Assembly team	Group of not more than 6 cooperating persons charged with the installation of facade cladding using an adhesive system.
Cleaning agent	See <i>cleaner</i>

4 PROCESS REQUIREMENTS

4.1 Work preparation

A calculation must be available concerning the dimensions of the adhesive ribbons to be applied for every project, depending on the application and adhesive system. A check must be made to see whether the following (at least) have been taken into account:

- The calculation for the amount of adhesive required (in accordance with BRL 4101-7)
- Panel dimensions
- Panel properties
- Substructure
- Loads (in accordance with NEN 6702)

4.2 Storage of materials and raw materials

A check must be made to see whether the adhesive, primers or cleaners and assembly tape to be used are stored in accordance with the instructions provided by the adhesive supplier.

The facade cladding to be used must be stored in a dry room under the conditions stipulated by the facade cladding supplier.

4.3 Transport to the construction site

A check must be made to see whether the materials to be used are transported to the construction site in such a way that no irreversible changes take place in them.

4.4 Preparatory activities

A check must be made to see whether the adhesive system to be used (substructure, assembly tape, adhesive,

primer or cleaner and facade cladding) demonstrably meets the requirements stipulated in BRL 4101-7.

4.4.1 Check on the substructure

The certificate holder must check whether the substructure is suitable for the installation of the facade cladding prior to commencement of the activities. The following minimum requirements must be taken into account:

- Dimensions in accordance with the calculations (see § 4.1)
- Moisture content of wood may not exceed 18% (if applicable)
- Surface temperature in accordance with the instructions for use provided by the adhesive supplier
- Flatness (the deviation in relation to a random thread to be stretched within the dimensions of the panel may not exceed ± 2 mm)

4.4.2 Check on the adhesive system

At the commencement of the installation process, the storage life of the adhesive and primer or cleaner to be used must be checked. These materials must be prepared in accordance with the instructions for use provided by the adhesive supplier.

4.4.3 Check on the equipment

The measuring and installation equipment must be checked to see whether it functions properly prior to commencement of the activities.

4.4.4 Check on facade cladding

The facade cladding must be checked for the following prior to installation and, if necessary, repaired or the problem corrected:

- damage, flaws or any other shortcomings which may affect the quality of the fixing
- moisture content (if applicable):
 - maximum solid wood 20%
 - maximum woody material 12%
- surface temperature: in accordance with the instructions for use provided by the adhesive supplier.
- deformations (deformations which lead to the detachment of the facade cladding from the assembly tape during installation are not permitted)
- dimensions in accordance with the calculations (see § 4.1)

4.5 Installation

The cladding is installed by an assembly team under the direct supervision of competent personnel (5.2). The fixing process is carried out with regular demonstrable checks (at least daily) on the following:

- the homogeneity and batch number of the adhesive and primer or cleaner,
- the equipment,
- the ambient conditions,
 - relative humidity in accordance with the instructions for use provided by the adhesive supplier
 - temperature in accordance with the instructions for use provided by the adhesive supplier

During hardening of the adhesive the assembly tape must absorb the expected load for 24 hours.

A cladding panel must be placed in the correct position the first time. Once a panel has come into contact with the adhesive it may not be removed and reapplied without using new adhesive.

If extreme weather conditions are expected within the next 24 hours (such that the assembly tape cannot meet the aforementioned conditions), the installation of the facade cladding will not be started or will cease immediately or alternative effective measures will be taken.

5 REQUIREMENTS LAID DOWN FOR THE CERTIFICATE HOLDER

In order to be eligible for the ®KOMO process certificate "The installation of facade cladding using adhesive systems" the certificate holder must meet the following conditions:

5.1 Registration with the Chamber of Commerce

The company must be registered with the Chamber of Commerce and submit an extract from the Commercial Register to the certification institute as proof of this fact.

5.2 Competence of company personnel

Personnel employed by the company who, as a result of their position, are directly or indirectly involved with the installation of facade cladding must be trained and instructed in writing such that they are aware of the following:

- the safety requirements during installation,
- any properties of the materials used which may be detrimental to the environment or safety,
- the storage and use of any toxic substances,
- the instructions for the use of the adhesive used,
- the consequences of the incorrect fixing of the facade cladding.

Employees charged with the installation of facade cladding must, in any case, be able to demonstrate that they have followed a training course and are, as a minimum requirement, in possession of the following diplomas or qualifications:

- the 'Basisveiligheid VCA (Basic Safety VCA)' course
- a professional training or qualification for the application of assembly tape, primer or cleaner and adhesive and the installation of facade cladding (PLAC course or an equivalent).

5.3 Internal quality control system

The company has a functional internal quality control system (IKB system) which meets the requirements given in chapter 6.

6 REQUIREMENTS PURSUANT TO THE INTERNAL QUALITY CONTROL SYSTEM

6.1 The certificate holder's internal quality control system

6.1.1 Responsibility

The management is responsible for the overall quality policy. The management may delegate the tasks relating to the implementation of the IKB system.

6.1.2 Internal quality control system

The IKB system must be laid down in writing in procedures and must at least concern the following:

- The drawing up of the contract, in particular as regards whether activities are ®KOMO process certified or not;
- work preparation
- inspection of materials, raw materials and (semi-) manufactures on entry;
- construction site instructions for the fixing process;
- checks on whether the facade cladding has been properly fixed;
- the calibration of measuring equipment;
- a system for registering complaints.

6.1.3 Reporting changes

All changes within the IKB system, such as procedures, construction site instructions and methods of recording activities, must be reported in writing to the certification institute in advance.

6.1.4 Organisation

The functional organisation of the company must be laid down in an organisation chart showing who is

responsible for what. In the event of a change in the situation, the organisation chart must be adjusted and the updated version made available to the certification institute.

6.1.5 Records

Records must be kept of all the checks held, calculations made, rejects, calibration of measuring equipment and complaint handling.

6.1.6 Complaint handling

The certificate holder must keep records of complaints concerning the facade cladding installed. The system must indicate how each complaint has been analysed and handled.

6.1.7 Certification mark

The delivery slip for the facade cladding installed with a system which has been awarded a ®KOMO process certificate must clearly show the ®KOMO mark and the number of the process certificate, as stipulated on the ®KOMO process certificate.

6.2 External quality control

The certificate holder must at all times cooperate with the certification inspections carried out by or on behalf of the certification institute by allowing entry to the company or construction site and inspection of the relevant documents, if requested to do so. The certificate holder must also inform the certification institute of the location and times that facade cladding is to be installed using ®KOMO process certified methods.

7 INSPECTIONS BY THE CERTIFICATION INSTITUTE

The certification institute carries out three unannounced inspections at each branch every year to check whether the certificate holder's fixing process and IKB system meet the requirements stipulated in chapters 4 and 6 of this present BRL respectively. One of these inspections takes place at the installation company and two at the construction site. The aforementioned inspection frequency can be adjusted on the advice of the College van Deskundigen (Body of experts) if there is reason to do so.

8 LIST OF REFERENCES

- | | |
|----------------|---|
| BRL 4101-7* | National Assessment Guideline for the ®KOMO Attest-with-product certificate for adhesive for the fixing of facade cladding panels |
| NEN 6702:2001† | Technical principles for building structures - TGB 1990 - Loadings and deformations |

* Please see the annual publication 'Overzicht van kwaliteits-verklaringen in the bouw (List of recognised quality declarations in construction)' by the SBK for the correct date of publication..

† If a year is given after the number of a corrected or supplemented standard, this is the year in which the most recent correction or supplement was published.

APPENDIX 1: SAMPLE QUALITY DECLARATION

®KOMO process certificate

Name of Certification institute
Address
Place of business
Telephone
(Fax)
(E-mail)
(Website)

Logo Certificatie-instelling

AANBRENGEN VAN GEVELBEPLATINGEN MET BEHULP VAN LIJMSYSTEMEN

Number:
Issued:
Replaces:

Company

Name
Address
Place of business
Telephone
(Fax)
(E-mail)
(Website)

DECLARATION BY [CERTIFICATION INSTITUTE]

This process certificate has been issued by [Certification institute] on the basis of BRL 4104, in accordance with the [Certification institute] Regulations for Process Certification:[year].

[Certification institute] declares that the activities carried out by [Name of company] within the framework of the installation of facade cladding using adhesive systems meet the process specifications laid down in this process certificate, provided the contract concerning the implementation of the activities states that the activities have been implemented using process certified methods.

For the relationship of the contents of this process certificate with the regulations of the Buildings Decree, see the “Overzicht van kwaliteitsverklaringen in the bouw (List of quality declarations in construction)” published by the Stichting Bouwkwaliiteit (Foundation for Building Quality, SBK), Rijswijk, the Netherlands.

On behalf of [Certification institute]

Managing director

Users of this process certificate are advised to check with [Certification institute] as to whether this document is still valid.

Illustration of the ®KOMO logo



This process certificate consists of [number] pages.

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®KOMO process certificate

Blad 11

Number: [number]

Published: [date]

INSTALLATION OF FACADE CLADDING USING ADHESIVE SYSTEMS

1. PROCESS SPECIFICATIONS

The facade cladding installed by [name of company] using an adhesive system meets the requirements stipulated in BRL 4104 'The installation of facade cladding using adhesive systems'. The facade cladding installed is resistant to the loads referred to in NEN 6702.

1.1 Product requirements

The adhesive system used (substructure, adhesive and facade cladding and, if applicable, also primer(s) and/or cleaner(s) and assembly tape) meets the requirements stipulated in BRL 4101-7 'Adhesive for the fixing of facade cladding'

1.2 Implementation requirements

Implementation requirements are set with regard to the following:

- Work preparation
- Storage of materials
- Transport of materials
- The installation of the facade cladding
- Competence of the personnel

1.3 Marks

If the facade cladding panels have been installed in accordance with BRL 4104 the delivery slip carries the ®KOMO logo.

The logo is as follows:

- logo



- no. [number]

2. TIPS FOR THE USER

2.1. On delivery, inspect whether:

- 2.1.1 the activities implemented correspond with the activities agreed;
- 2.1.2 the activities implemented do not show any shortcomings;
- 2.1.3 the delivery slip is marked in accordance with subclause 1.3.

2.2 If activities are rejected pursuant to the provisions of 2.1., please contact:

2.2.1 [Name of company]

and, if necessary:

2.2.2 [Certification institute]

2.3 The certificate holder is required to ensure that the client has a complete copy of the process certificate.

2.4 Check whether this process certificate is still valid; consult [list of certificates].