SLOVENSKI STANDARD
SIST-TP CEN/TR 15123:2005

01-september-2005

Naļ rtovanje, priprava in uporaba notranjih polimernih ometov

Design, preparation and application of internal polymer plastering systems

Planung, Zubereitung und Ausführung von Polymer-Innenputzsystemen

Ta slovenski standard je istoveten z: CEN/TR 15123:2005

ICS:

83.140.99	Drugi izdelki iz gume in polimernih materialov	Other rubber and plastics products
91.180	Notranja zaključ na dela	Interior finishing

SIST-TP CEN/TR 15123:2005 **en**

TECHNICAL REPORT

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

CEN/TR 15123

June 2005

ICS 83.140.99; 91.180

English version

Design, preparation and application of internal polymer plastering systems

Planung, Zubereitung und Ausführung von Kunstharzinnenputzsystemen

This Technical Report was approved by CEN on 13 May 2005. It has been drawn up by the Technical Committee CEN/TC 125.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. CEN/TR 15123:2005: E

Contents

Foreword

This document (CEN/TR 15123:2005) has been prepared by Technical Committee CEN/TC 125 "Masonry", the secretariat of which is held by BSI.

This document has been initially prepared by the European section of International Union of Contractors of Plastering, Dry Lining, Stucco and Related Activities (UIEP) at the request of the CEN Technical Sector Board (Resolution No.BTS1/56/1991). It has been revised by CEN/TC 125/JWG5 in conjunction with CEN/TC 241. The CEN technical report gives in different sections guidance for building details, design and materials considerations and the application of polymer plasters. Relevant data are summarized in a series of tables. The recommendations are framed in logical sequence, namely materials and accessories; properties of backgrounds that influence the choice of suitable polymer plastering systems; guidance on preparation of surfaces to be plastered; choice of suitable polymer plasters; methods of application. It is essential that the design clauses are read in conjunction with the clauses on background and preparation.

It is not the function of this document to assign responsibility for the design and application of any work or actions mentioned within to any specific party. Such responsibility is a matter for other documentation associated with the work, e.g. the contract.

It has been assumed in the drafting of this document that the application of its provisions is entrusted to appropriately qualified and experienced people, for whose guidance it has been prepared.

This TR should be read in conjunction with EN 13914-2.

The following similar Technical Reports are also available:-

CEN/TR 15124:2005 *Design, preparation and application of internal gypsum plastering systems*

CEN/TR 15125:2005 *Design, preparation and application of internal cement and/or lime plastering systems*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Report: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This document concerns the design, preparation and application of plaster with polymer as the principal binder type, for internal plastering on all types of background used under normal conditions. It includes plastering onto both new and old backgrounds and the maintenance and repair of existing work. It concerns materials, backgrounds, preparation of the surface to be plastered, choice of suitable polymer plasters, methods of application and inspection and testing of plastering.

Because of the many and varied materials and practices in Europe it is not possible for certain aspects of the standard to enter into sufficient detail to be fully usable to practitioners in each country.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
polymer plaster
plaster with polymer as the principle active binding component. Additives, fillers and aggregates may be added by the manufacturer. The plaster can be delivered as a powder or ready-to-use

2.2
polymer plaster coat
obtained by application of one layer of the product

2.3
polymer plastering system
polymer plaster coat or sequence of coats to be applied to a background to achieve the required flatness and smoothness, including the possible use of a support and/or reinforcement and/or pretreatment

2.4
one coat polymer plaster
polymer plaster applied in one coat which fulfils all the functions of an undercoat and a final coat

2.5
undercoat
lower plaster coat(s) of a plastering system which needs a final coat

2.6
final coat
last plaster coat of a multi-coat plastering system

2.7
efflorescence
formation of crystals on a surface during drying caused by the presence of soluble salts

3 Materials and accessories

3.1 General plasters

3.1.1 General

Where applicable the polymer plaster should conform to prEN 14023. They should be classified in accordance with EN 13501-1 for reaction to fire.

3.1.2 Polymer plasters (e.g. synthetic resin plaster, silicone plaster)

These thin coat plasters harden mainly by physical drying which can sometimes limit the coat thickness. There are no general requirements regarding suction and key of the background and the adhesion to all kinds of dry backgrounds including paints is usually good.

3.1.3 Silicate plasters

These plasters harden chemically and by physical drying. In very rapid drying conditions, precautions need to be taken to retain sufficient moisture to allow an adequate hardening of the plaster.

3.2 Water

The water should be of a quality such that it does not adversely affect the plaster.

Water fit for drinking is suitable for mixes for plastering

NOTE Attention is drawn to the requirements of EN 1008 in cases where water supplies may be of doubtful quality.

3.3 Reinforcement and beads

Reinforcement and beads of whatever type, should conform to EN 13658-1 Metal lath and beads – Definitions requirements and test methods – Part 1: internal plastering.

3.4 Fixings

Fixings for beads such as nails, screws, staples and steel wire should be made of compatible material and should conform to EN 10223-3, EN 10230-1, EN 10244-1 or EN 10244-2.

4 Design - factors influencing the selection of polymer plastering systems

4.1 Functions and properties that may be required

The function and properties achievable are determined by the choice of plaster type.

A plastering system will need to fulfil some of the following functions or properties:

— to even out any small unevenness in the background and provide a flat surface (see Table 1);

— to provide a decorative finish or a background for such a finish;

— to be vapour permeable;

— to have enhanced strength;

— to have enhanced resistance to abrasion.

Special plasters can provide enhanced properties for the following aspects:

— to improve the acoustic properties of a building element (see **5.4**);

4.2 Factors influencing the choice of polymer plasters

The designer should consider all functional and aesthetic aspects of the building.

The choice of polymer plaster(s) or plaster system is determined principally by:

a) type of building (private houses, buildings); purpose of building (flat, school, hospital, office); uses (for example: wet room);

b) the characteristics of the background;

c) the ambient and operating conditions;

d) the traditional usage in any particular area;

e) the type of finish required.

4.3 Background

Consideration should be given to the compatibility between polymer plasters and the background. To achieve this compatibility, the following items should be considered:

a) The background should provide adequate support, strength and rigidity for the adhesion of the plaster.

b) Masonry should conform to the requirements of ENV 1996-2.

c) Boards, slabs and polystyrene should be fixed securely and should only be plastered when they are dry and dimensionally stable.

d) It is important to avoid:

   1) movement of the background, including structural, moisture and thermal movements;

   2) defects in the background, e.g. weakness, contamination;

   3) efflorescence

Such compatibility is necessary to avoid bond failure between successive coats or between the first plaster coat and the background.

If any of these inadequate characteristics of the background exist, then other means of providing support and/or additional adhesion should be used.

If it is necessary to plaster over an existing substrate, ensure that it will have sufficient bond strength to support and provide adhesion for the new plaster.

Where a plaster coat is applied to cement or cement lime background, it is important that the entire substrate is mature, clean and dry, otherwise difficulty with decoration due to the migration of alkalis may be experienced and in extreme cases complete de-bonding of the plaster coat can occur.

5 Characteristics of polymer plasters

5.1 General

Polymer plasters may be decorated with most proprietary finishes when dry.

Polymer plaster can be used in most areas and on most substrates including painted surfaces with or without pre-treatment. Each coat should be allowed to harden and dry before applying the subsequent coat.

Polymer plaster, when hardened and dry, is amongst the least troublesome of plaster surfaces in relation to decorative finish.

5.2 Fire properties

5.2.1 Reaction to fire

See **3.1**.

5.2.2 Fire resistance

Resistance to fire is a property of a system (background and plastering) and not of the product itself.

When relevant, the fire resistance of a system including polymer plastering should be tested and classified in accordance with EN 13501-2.

The manufacturer should declare performance on fire: integrity (E), resistance (R).

5.3 Thermal properties

Normal plasters do not make a significant contribution to thermal insulation. However, they do provide an effective way of sealing porous surfaces and voids.

5.4 Acoustic properties

Even if standard polymer plasters do not contribute specifically to sound absorption, a polymer plastering system contributes to sound absorption due to its flexibility (minor critic frequency) and continuity by filling voids.

If enhanced sound absorption properties are required, then special acoustic plasters should be used. Sound-absorbent finishes may affect sound transmission indirectly to some extent by reducing the level of reverberant noise in either the source room or receiving room.

5.5 Resistance to cracking

When the background has been erected in accordance with the relevant standards and the polymer plaster applied in accordance with this document and the recommendations of the manufacturer, then the polymer plaster will perform satisfactorily.

The maximum coat thickness recommended by the manufacturer should not be exceeded.

5.6 Water resistance

In wet areas polymer plasters with enhanced water resistance should be used.

5.7 Durability

The durability of polymer plaster can be affected by the following:

- Lack of adhesion to the background and between coats e.g. too low or too high temperatures.
- Alkali migration from the background.
- Contamination from the background e.g. oil, salts.