

TECHNICAL BULLETIN – TB105

APPLICATION OF ARDEX K15M, K12N, K120/K220, ARDITEX-NA OR ARDEX LQ92 SELF SMOOTHING CEMENT OVER LIGHTWEIGHT AUTOCLAVE CONCRETE

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INTRODUCTION & SCOPE

Light weight construction methods have seen the application of aerated autoclaved concrete panels (i.e. Hebel) in flooring applications. The primary features of this type of material that are of concern to flooring installers are their very high porosity, and relatively low compressive strength compared to concrete.

Installation of ARDEX self smoothing cements is an effective method of providing a smooth flat surface over this substrate for the installation of carpet, vinyl or strip timber flooring in dry internal applications.

SURFACE PREPARATION

The surface of aerated concrete is usually quite dusty and so needs to be cleared of any loose material, dirt, dust, contaminants etc, and then *thoroughly vacuumed*.

If the subfloor is wet it must be allowed to dry completely prior to the application of any toppings.

If the surface is contaminated or has a pre-existing covering, the use of mechanical preparation methods needs to be done with a high degree of care as deep gouging of the surface is a distinct possibility. The preferred method would be sanding.

PRIMING K15, K12, K120, K220 AND ARDITEX

The high porosity of autoclaved concrete means that *two coats of priming* will be required prior to the application of the floor levelling cement. In particular the porosity will result in 'ant holing' of the smoothing cement if priming is insufficient.

1. The primer shall be ARDEX P51. The first coat shall be diluted with water in the ratio of 1 part of ARDEX P51 and 3 parts of clean water. The diluted primer is applied to the surface with a broom and worked well into the pores. Allow 1-3 hours drying.
2. When the first coat of primer is dry apply a second coat of ARDEX P51 primer diluted 1 part primer to 1 part of water. This second coat is also applied with a broom and allowed to dry for a minimum of 30 minutes.

PRIMING LQ92 (FOR CERAMIC TILES ONLY)

3. The primer shall be ARDEX Multiprime. The first coat is applied to the surface with a broom and worked well into the pores. Allow 1-3 hours drying.
4. When the first coat of primer is dry apply a second coat of ARDEX Multiprime primer diluted 1 part primer to 1 part of water. This second coat is also applied with a broom and allowed to dry for a minimum of 30 minutes.

PATCHING

It may be necessary to patch or fill the floor joints and other holes in the floor and ARDEX A45 is recommended for this application. Due to the high porosity of the aerated concrete, patching should be done over a primed surface.

When the ARDEX A45 has cured it shall be re-primed prior to the application of the topping cement. The primer shall be ARDEX 51 diluted 1 part to 2 parts of water.



APPLICATION OF SMOOTHING CEMENT

The self smoothing cement can be applied over the primed surface and the recommended minimum thickness is 3-4mm.

To improve the properties of the ARDEX K15, K12, K120 or K220 the use of ARDEX E25 improver is recommended.

Where ARDEX K15 Microtec is used, the requirement for ARDEX E25 is optional, however where it is used the mix ratio is-

Mix 1 litre of ARDEX E25 improver with 4.5 litres of water per 20kg bag of K15M.

Mix 1.25 litres of ARDEX E25 improver with 3.75 litres of water per 20kg of K120.

Mix 1.6 litres of ARDEX E25 improver with 3.5 litres of water per 20kg of K220.

Mix 1 litre of ARDEX E25 improver with 4.5 litres of water per 20kg bag of K12N.

Refer to the product datasheets for details of mixing and drying times.

Where ARDEX LQ92 is to be used it is recommended that it is mixed with either ARDEX E25 or ARDEX Abalastic improvers.

Mix 1.5 litre of ARDEX E25 improver with 3 litres of water per 20kg bag of LQ92.

Mix 2.5 litres of ARDEX Abalastic with 2.5 litres of water per 20kg bag of LQ92.

PATCH MORTARS

It is also feasible to apply thin coats of the patch mortar over Hebel, and also to repair damage such as broken off pieces or divots. The surface of AAC can be smoothed with ARDEX Feather or ARDEX Fine Finish, and also ARDEX A30. Damage can be repaired with ARDEX A45 and A46 patch mortars. These materials will dry very rapidly over AAC and priming the surface with P51 will increase the working time.



PRECAUTIONS

The compressive strength of the aerated concrete is approximately 4.5MPa, whilst the smoothing cements achieve around 30MPa after 28 days. The load capacity of the system will be limited by that of the subfloor rather than the toppings.

Therefore it is recommended that specifiers should determine the floor loadings expected and confirm that the floor coverings are able to resist these loadings to avoid indentations or damage to the subfloor. This can be an issue where resilient flooring is used with chairs that have small feet, which can create a high point load.

Always install an adequate number of properly located test areas including the flooring finish to determine the suitability of the product for the intended use.

IMPORTANT

This Technical Bulletin provides guideline information only and is not intended to be interpreted as a general specification for the application/installation of the products described. Since each project potentially differs in exposure/condition specific recommendations may vary from the information contained herein. For recommendations for specific applications/installations contact your nearest ARDEX Australia Office.

DISCLAIMER

The information presented in this Technical Bulletin is to the best of our knowledge true and accurate. No warranty is implied or given as to its completeness or accuracy in describing the performance or suitability of a product for a particular application. Users are asked to check that the literature in their possession is the latest issue.

REASON FOR REVISION

Removal of K009 and addition of K120, K220 and LQ92. Slight text revisions

REVIEW REQUIRED

36 months from issue

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