TECHNICAL BULLETIN – TB205

Creating Ramps on Internal Subfloors with Ardex A30 Patching Cement

January 2025

INTRODUCTION & SCOPE

Floor levelling cements are commonly seen as a thin topping material applied prior to the application of the final floor covering. However, these materials can also be used as a bulk material when mixed with a suitable aggregate filler to create ramps.

In this bulletin different systems will be highlighted that allow the applicator to use A30 patch mortar neat and bulk filled to tackle these situations.

THE PROBLEMS

A common application that arises is the necessity for sloped fills. This can be either as ramps where adjacent floor areas may have different heights and require a ramp to avoid trip hazards, or in wet areas to create falls to drainage.

The use of bulk fill aggregates reduces the cost of the levelling materials making filling larger areas more economical. Since ARDEX A30 is rapid drying, the problems associated with the slow drying of conventional sand cement screeds or concrete fills are eliminated, further reduction costs through lost time.

SOLUTIONS

Where the height of the ramp is less than 10mm, it is possible use ARDEX A30 patch mortar neat.

For thicknesses exceeding 10mm it can be mixed with 2-5mm aggregate to create a bulk filled product to 20mm. This material is normally quite coarse and be re-smoothed with neat A30 or ARDEX FEATHER FINISH.

The bulk filled base layer can be put down to a thickness approximately 3-4mm lower than the final level that is required, and then a 3-4mm topcoat of the same product without fill can be applied as a smoothing layer to provide the necessary surface.

NOTE: Smoothing cements cannot be broom finished as final surfaces.

Surfaces to be tiled may not require any further smoothing of the dried surface prior to tile application, unless critical applications such as large format porcelain tiles are being laid.

Ramps can also be created over areas subject to dampness by the installation of a moisture barrier system comprising two coats of ARDEX WPM300.

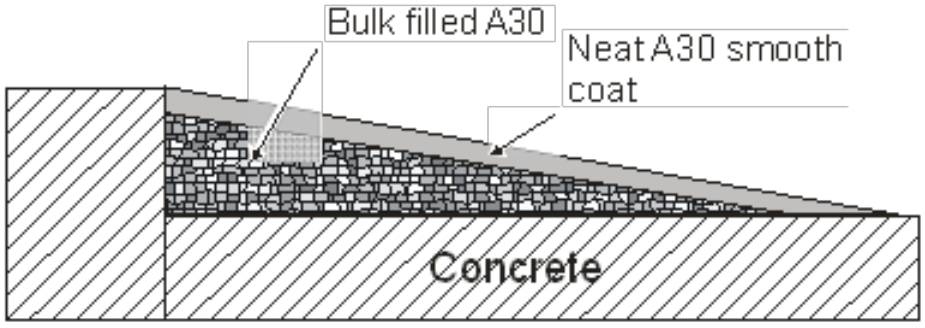

Table 1. Applications with or without moisture barriers and surface applied membranes onto internal concrete subfloors only.

Typical applications where ramps or falls are required, and membranes may or may not be required on top of the sloped area.

Dry concrete substrate					
Product	**Application**	**Moisture Barrier**	**Surface primer**	**Drying time**	**Thickness**
ARDEX A30	**Under Resilient flooring, Carpets and Ceramic tiles** Ramping Additions /height variations	NA	NA	1 hour	1-10mm
ARDEX A30 mixed 1:1 with 2-5mm aggregate	**Under other Ardex FLCs (A30/FF), Ceramic tiles** Ramping Additions /height variations	NA	NA	1 hour	>11-20mm
Substrate subject to rising damp – moisture barrier system					
ARDEX A30	**Under Resilient flooring, Carpets and Ceramic tiles** Ramping Additions /height variations	1st coat ARDEX WPM300 2nd coat WPM300+ Broadcast sand	NA	1-2 hours	1-10mm
ARDEX A30	**Under Resilient flooring, Carpets and Ceramic tiles** Ramping Additions /height variations	2 coats of ARDEX WPM300	ARDEX P82 Ultraprime	1-2 hours	1-10mm

ARDEX A30 mixed 1:1 with 2-5mm aggregate	**Under other Ardex FLCs (A30/FF), Ceramic tiles** Ramping Additions /height variations	1st coat ARDEX WPM300 2nd coat WPM300+ Broadcast sand	NA	1-2 hours	>11-20mm
ARDEX A30 mixed 1:1 with 2-5mm aggregate	**Under other Ardex FLCs (A30/FF), Ceramic tiles** Ramping Additions /height variations	2 coats of ARDEX WPM300	ARDEX P82 Ultraprime	1-2 hours	>11-20mm
Wet area vinyl floors – creation of falls					
Product	**Application**	**Waterproof membrane primer**	**Waterproof membrane**	**Fairing coat**	**Thickness**
ARDEX A30 mixed 1:1 with 2-5mm aggregate	**Wet area vinyl applications**	ARDEX WPM265	ARDEX WPM002 or ARDEX WPM155	ARDEX FEATHER FINISH	>11-20mm

MIXING & INSTALLATION OF BULK FILLS

The installation of these products follows the general guidelines for the ARDEX floor levelling products. Subfloors must be structurally sound and free of laitance, oil, grease, wax, dirt, asphalt, curing compounds, latex and gypsum compounds, dust, paint or any contaminant which might act as a bond breaker.

Mechanical preparation methods are required to produce surfaces suitable for application of floor levelling cements. Details for surface preparation are available in Ardex Technical Bulletin TB041. More complete details for the moisture barrier system using ARDEX WPM300 are described in Ardex Technical Bulletin TB006 or TB192.

The correct amount of water is measured out into a 20 litre or larger mixing bucket such as steel bin or plastic barrel, and the floor levelling cement powder is poured in at the same time as mixing is commenced.

Mixing is performed with a high-speed mixer such as a drill fitted with an ARDEX mixing paddle. Normal mixing is done for 2 minutes, and then the aggregate/sand is added and mixing continued till the aggregate is wet out.

The mixed A30 is applied to the surface by scooping-pouring from the mixing container and working to a wet edge. The mixed material is spread and trowelled into shape to provide falls or form a ramp.

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The poured material can be roughly shaped by scraping with a trowel after initial set, or once the filled leveller has cured, it can be diamond ground as required.

The rough finish produced can be used as it is or smoothed by the application of a topping coat of leveller without the fill. A coat of primer is applied to the filled leveller and allowed to dry. A normal mix of the leveller is then made and applied to the surface, and between 3-4mm is normally adequate. When the topcoat has cured floor coverings can be applied.

Where liquid membranes are applied, the filled leveller may require a smoothing coat under the membrane. However, under no circumstances should levellers be applied over flexible liquid applied (Class II-III to AS4858) or sheet membranes.

CONCLUSION

In situations where a fill or ramp is required, ARDEX A30 neat or mixed with a suitable aggregate provides a fast-track method of providing underlayment for ramping which are superior to standard sand-cement screeds. The mortar cement bulk fill dries in under 4hrs, whereas sand-cement screeds dry at a rate of 1mm per day and significantly stronger.

Careful selection of product will provide a system suitable for depths from 1mm upwards

REASON FOR REVISION
ARDEX Logo and address update.

REVIEW REQUIRED
36 Months from date of issue

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