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JUNE 2005  
BUILDING DIVISION  
PRODUCT DATA SHEET

# ARDEX R 90 P

## Rake and Trowel Grade Heavy Duty Polyurethane Screed

HIGH PERFORMANCE, POLYURETHANE RAKE AND TROWEL RESIN FLOORING SYSTEM, SUPPLIED AS FOUR COMPONENTS IN PRE-MEASURED PACKS FOR EASE OF ON SITE MIXING AND USE. THE CURED SYSTEM FORMS A TOUGH, EASILY CLEANED, PIGMENTED LAYER FROM 4MM UP TO 9MM THICK.

### Features

Easily applied by rake and trowel

Hard wearing - extremely durable and abrasion resistant with low maintenance costs

Facilitates rapid application

Resistant to a wide range of chemicals and liquids

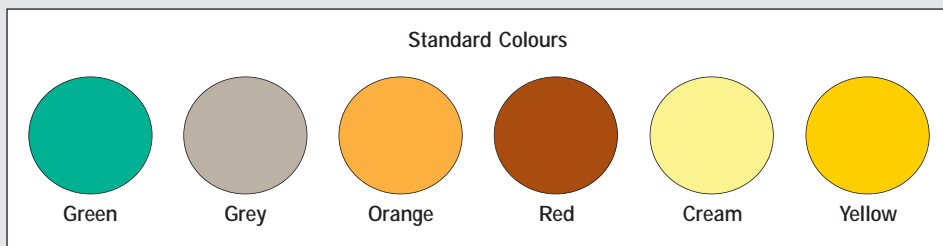
Independently tested - suitable for use in food and drinks production environments

Seamless - easily cleaned to maintain high standards of hygiene

Resistant to thermal shock - at 9mm thick can withstand steam cleaning regimes

Available in a range of colours

FeRFA Classification - Type 8



Due to printing process, colours can only be approximate



Reg No. FM 1207

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### DESCRIPTION

Specialist applied, polyurethane resin floor finish, combining outstanding wearing properties with high chemical resistance and decorative properties. Ideally suited to aggressive areas where a seamless, joint free finish is required and maximum cleanliness is essential. Food processing and storage, abattoir's, drinks production, dairies and general heavy duty plant and traffic areas are just some of the environments that can benefit from this slip resistant system. ARDEX R 90P has been formulated to give an easily worked system that can be applied quickly and easily by using a pin rake, only requiring finishing with a trowel to give the required finish.

### SUBSTRATE PREPARATION

The concrete or screed substrate must be hard, sound and free of dust and other barrier materials such as paint, lime coatings, plaster, curing agents, laitance, adhesive residues etc., that will inhibit adhesion to the substrate.

Use ARDEX DGR to remove polish, wax, grease, oil and similar contaminating substances prior to mechanical preparation. Contaminated concrete surfaces should be mechanically prepared, either by scabbling, grinding or contained shot blasting equipment or similar, and be vacuumed clean prior to applying ARDEX R 90P. Overwatered or otherwise weak concrete surfaces must also be suitably prepared down to sound, solid concrete by mechanical methods. Dust and other debris should be removed using vacuum equipment.

**NOTE:** Any joints or cracks in the concrete base where differential movement is anticipated e.g. movement joints, should be brought through to the finished surface and suitably sealed. New concrete slabs must be allowed to cure for at least 14 days.

To ensure maximum bond, grooves must be cut into the perimeter of the sub-floor, typically 8mm deep by 8mm wide. These should be inset approximately 100mm from and running parallel with the walls and adjacent to doorways and plinths etc., including any finishing edges and day joints. The grooves must have clean, square edges and the product laid into the full depth of the groove forming a perimeter anchorage. Grooves should surround areas not exceeding 20m<sup>2</sup>.

### STEEL PLATES

Steel decking must be clean, sound and properly supported to prevent flexing. Deck plate of less than 4mm thick is not recommended. Surfaces should be shot blasted to SA2.5 and primed using ARDEX R 3 E Solvent Free Epoxy Primer.

### PRIMING

All appropriate substrates to receive ARDEX R 90 P must first be primed with ARDEX R 3 E. One or more coats of primer may be required depending upon the condition and porosity of the concrete substrate. The final coat of ARDEX R 3 E must be seeded with ARDEX Fine Aggregate to provide a mechanical key.

### MIXING

Part A and Part B Resin Components of ARDEX R 90 P must first be mixed together for 1 minute, using forced action, in a suitably sized mixing vessel. The contents of Part C, the powder component and pigment sachet should then be introduced into the mixed resin and mixed together for a further 2 minutes to create one homogeneous mix. One or more packs may be mixed at the same time in order to maintain a quick rate of installation.

### APPLICATION

The mixed material should be applied to the prepared and primed substrate without delay using a pin rake to achieve the desired thickness and closed with a steel trowel.

**NOTE:** If a smoother texture is required, as soon as the product has been laid and as work progresses, the surface should be gently rolled with a short piled roller in order to provide an even surface appearance. Do not over roll the surface, as this will reduce the texture of the surface finish. Do not re-roll later.

The work area should be protected during the installation process and during the initial curing time to ensure that no airborne debris can contaminate the surface of the wet resin as this will lead to unwanted blemishes in the hardened, cured surface.

All movement joints in the sub-floor must be carried through the topping and properly sealed. Construction joints and cracks not subject to movement may be overlaid but should the floor move in anyway, these defects will reflect through the system. Isolation joints will need to be allowed for in areas where high thermal movement is anticipated, e.g. around ovens and freezers.

### LIMITATIONS

ARDEX R 90 P should only be applied at temperatures above 5°C and where the atmospheric relative humidity (RH) is 90% or below. Floors should have an RH of 75% or less. For floors with an RH of more than 75%, the entire floor area should be treated with ARDEX DPM Surface Damp Proof Membrane applied and seeded with ARDEX Fine Aggregate, in accordance with the current product data sheet, in place of ARDEX R 3 E. The substrate should have a surface tensile strength of at least 1.5 N/mm<sup>2</sup>. ARDEX R 90 P and primer/DPM may be applied to substrates of a lower strength, but long term performance may be impaired. Once the mixed material has exceeded its pot life, the viscosity and the characteristics of the product will change and any unused product should be discarded at this time.

### CLEANING TOOLS

ARDEX R 90 P can be removed from tools and equipment immediately after use. Any hardened material will need to be removed mechanically.

### PROPERTIES

The values shown are typical of results obtained in the laboratory at 20°C. Actual performance values obtained on site may vary from those quoted.

Physical properties	@ 20°C Approximately
Working life	15 mins
Light traffic	24hrs
Full traffic	48hrs
Full chemical cure	7 days
Bond strength	> 1.5 N/mm <sup>2</sup>
Compressive strength:	52 N/mm <sup>2</sup>
Flexural strength:	14 N/mm <sup>2</sup>
Tensile strength:	6 N/mm <sup>2</sup>
Abrasion resistance:	Classified 'Special Duty' under BS 8204: Part 2: 2002(9)
Slip resistance:	Classified 'Satisfactory' under BS 8204: Part 2: 2002(9), wet and dry
Impact resistance:	Classified 'High Impact Resistance' under BS 8204: Part 1: 1999

### CHEMICAL RESISTANCE

ARDEX R 90 P is resistant to a wide range of liquids and chemicals, for specific information please refer to the ARDEX Technical Services Department.

### MAINTENANCE

For information on cleaning and maintenance regimes please refer to the Priming, Preparation, Cleaning and Maintenance for ARDEX Industrial Flooring Products leaflet.

### COVERAGE

A 28.9kg pack of ARDEX R 90 P will cover approximately 2.1m<sup>2</sup> when applied at a thickness of 5mm.

**NOTE:** These figures are theoretical, due to wastage and the variety and nature of substrates practical coverage figures may be reduced.

### STORAGE AND SHELF LIFE

Store in dry conditions between 5°C and 30°C, protect from frost and direct sunlight. Storage life not less than 6 months in the original unopened packaging.

### PRECAUTIONS

During mixing and application the following precautions should be observed: ensure adequate ventilation and avoid contact of the material with the eyes, nasal passages, mouth and unprotected skin. Avoid contact with the hands by wearing protective gloves and by using, if necessary, a suitable barrier cream.

In case of contact with the eyes, rinse immediately with plenty of water and seek medical advice and after contact with the skin wash immediately with plenty of soap and water (do not use solvents). Prolonged contact with the skin should be avoided, especially where the user has an allergic reaction to resin-based materials. Always wear gloves and eye/face protection as necessary. Observe personal hygiene, particularly washing the hands after work has been completed or at any interruption whilst work is in progress. Care should be taken when removing gloves to avoid contaminating the insides. In case of accidents seek medical advice.

For further information please refer to the Health and Safety Data Sheet.

### DISPOSAL/SPILLAGE

Spillage of any of the component products should be absorbed onto sand or other inert material and transferred to a suitable disposable vessel. Disposal of such spillage or empty packaging should be in accordance with local waste disposal authority regulations.

**NOTE:** The information supplied in our literature or given by our employees is based upon extensive experience and, together with that supplied by our agents or distributors, is given in good faith in order to help you. Our Company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also guarantee the consistent high quality of our products; however, as we have no control over site conditions or the execution of the work, we accept no liability for any loss or damage which may arise as a result thereof.