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AUGUST 2005
FLOORING DIVISION
PRODUCT DATA SHEET

ARDEX SD-T/SD-T B BASE MIX Industrial Floor System

Features

FAST - install in the evening and re-open for business the next day, minimal downtime

COST EFFECTIVE - base mix and topping system available

STRONG - withstands heavy wheeled traffic and has excellent abrasion resistance

DURABLE - hard wearing

USER FRIENDLY - ARDEX SD-T Industrial Floor System can be installed from 5mm - 50mm over existing concrete surfaces

VERSATILE - can receive a range of surface finishes including suitable epoxy paints, resin coatings etc.

Rapidry Formula



What is the
Rapidry Formula?

It is the ability of the mortar to totally
bind the water used for mixing.



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ARDEX SD-T/SD-T B BASE MIX

Industrial Floor System

DESCRIPTION

ARDEX SD-T Industrial Floor System from ARDEX is a combination of ARDEX SD-T and ARDEX SD-T B base mix. ARDEX SD-T is a specially formulated cement-based compound for resurfacing and levelling existing concrete floors to give a hard, smooth, flat, wearing surface or as a base for suitable paint and resin coatings. ARDEX SD-T B base mix is designed to pre-level concrete surfaces prior to applying ARDEX SD-T. ARDEX SD-T has been used in applications varying from prestigious retail stores to resurfacing concrete warehouse floors.

ARDEX SD-T Industrial Floor System provides the ideal combination of toughness, low maintenance, ease of application and high durability coupled with the incorporation of the unique ARDEX 'Rapidry Formula'. This technology offers a new perspective on modern fast-track industrial flooring techniques involving the application of a clear sealer or resin coating. With ARDEX SD-T the installer has only to wait as little as 6 hours at 20°C before applying water-based systems such as epoxy paint coatings. Due to the 'Rapidry Formula' chemically binding the mixed water, the ARDEX SD-T literally dries within itself at the same time as it rapidly develops strength.

When mixed with water, ARDEX SD-T produces a fluid self-levelling mortar which can be applied by trowel or pump as a floor finish from 5mm-12mm in one operation. Where thick ARDEX SD-T applications are required the cost effective ARDEX SD-T B base mix can be applied from 7mm-50mm depth to level the concrete base. The 'Rapidry Formula' technology of the ARDEX SD-T B base mix means that within only hours of its application a minimum 5mm thickness of ARDEX SD-T can be applied.

NOTE: In certain circumstances, ARDEX SD-T B base mix may be used as a final wearing surface or coated directly with a suitable protective coating, but only if the minimum thickness is greater than 12mm and the contractor is satisfied that the required finish for the end use can be achieved in a single layer application, consult ARDEX Technical Services Department.

ARDEX SD-T Industrial Floor System is virtually tension free and provides a very high strength surface which has enough resiliency to accept heavy wheeled traffic, such as that found in industrial workshops and warehouses etc. Independent testing at Aston University has confirmed the excellent inherent abrasion resistance of ARDEX SD-T Industrial Floor System ensuring its suitability for a wide range of applications.

SUBSTRATE PREPARATION

Direct to earth concrete sub-floors must be dry and have an effective damp proof membrane such as ARDEX DPM. The concrete surface 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. Contact our Technical Services Department for further information. 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 the correct dilution of ARDEX P 51 primer. Overwatered, or otherwise weak concrete surfaces must also be suitably prepared down to sound, solid concrete by mechanical methods.

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. ARDEX SD-T Industrial Floor System should not be used in areas of constant water exposure.

PRIMING

Prime absorbent concrete sub-floors with ARDEX P 51 primer, diluted 1:1 with clean water. Pour the diluted ARDEX P 51 primer onto the clean prepared concrete surface and brush out using a soft broom to ensure an even, uniform distribution of primer and allow to dry to a clear, thin film. Do not use paint rollers, mops or spray equipment. Do not leave any bare spots. Brush out puddles of excess primer.

Porous concrete may require two applications of ARDEX P 51 primer to avoid the formation of pinholes in the applied mortar. In such situations, apply an initial application of ARDEX P 51 primer diluted 1:3 with water. Once dry, approximately 1-3 hours after the initial application, apply a second application, diluted 1:1 with water. Do not apply the ARDEX SD-T before the primer has dried thoroughly. Very smooth, power trowelled concrete may have a surface which is non-absorbent. Such surfaces must be mechanically prepared to achieve a rough, porous surface prior to priming with ARDEX P 51 primer.

When applying ARDEX SD-T on top of ARDEX SD-T B base mix, ensure any contamination is removed prior to priming with ARDEX P 51 primer mixed 1:2 with water using a broom. The surface of the ARDEX SD-T B base mix must be thoroughly primed. Only use ARDEX P 51 primer for ARDEX SD-T Industrial Floor System installations.

MIXING ARDEX SD-T

To the required amount of clean water in a clean mixing container add the powder whilst mixing thoroughly using an ARDEX mixing paddle with a 10mm chuck variable speed (600 -1,000 rpm) electric drill, until a smooth lump free mortar is produced. For each 25kg bag of ARDEX SD-T, add 5 to 5½ litres of clean water. Use the minimum amount of water for thick applications or cold conditions. Do not use more than 5½ litres per bag.

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MIXING ARDEX SD-T B base mix

As above except $3\frac{1}{2}$ to $3\frac{3}{4}$ litres of mixing water is used. Do not exceed $3\frac{3}{4}$ litres of water per 25kg bag of ARDEX SD-T B base mix.

APPLICATION OF ARDEX SD-T AND ARDEX SD-T B base mix

Pour the mixed ARDEX SD-T compound onto the prepared sub-floor. The mixed mortar will flow out and self-level during the first 10 minutes of its 15 minutes working time at 20°C. Use an ARDEX gauging tool with height adjustment for gauging thick applications. Use an ARDEX long handled smoothing trowel or spiked roller for finishing off depending upon the finish required. Minimum recommended application temperature 10°C. Where large sub-floors require levelling and/or thick applications are required it is recommended to pump ARDEX SD-T Industrial Floor System.

For advice on pumping equipment consult our Technical Services Department.

THICKNESS

ARDEX SD-T B base mix should be applied at thicknesses greater than 7mm. To benefit from its levelling properties ARDEX SD-T B base mix should be applied at least 12mm thick. When applying ARDEX SD-T B base mix at thicknesses of over 20mm, larger aggregate may be incorporated. Contact our Technical Services Department for further information.

NOTE: It is recommended that the final smoothing application of ARDEX SD-T is applied within 48 hours, however, where the applied mortar is subjected to rapid drying conditions, e.g. direct sunlight, through draughts or where the installation of the smoothing layer of ARDEX SD-T is delayed for longer than 48 hours, the surface of the ARDEX SD-T B base mix should be covered.

WEAR SURFACES

The surface of the ARDEX SD-T should be protected from spillages such as oil, salts, water etc., by applying a suitable concrete sealer or resin coating such as ARDEX R 30 E Water-Based Epoxy Coating, see the ARDEX R 30 E product data sheet for further information. Suitable sealers will also help ease maintenance and help to maintain the aesthetic appearance.

NOTE: ARDEX R 30 E should be applied 6 to 12 hours after application of ARDEX SD-T. The first coat may be thinned with up to 10% of water to aid penetration. As the performance of other resin flooring systems varies considerably, if compatibility is unknown, a trial application is recommended to assess the suitability and compatibility of the selected coating with ARDEX SD-T before work commences. Always contact and rely upon the coating manufacturer for specific application instructions and product guidelines.

Where good drying conditions prevail (i.e. 20°C and a relative humidity not exceeding 50%), coatings can be applied within 6 hours after application of the ARDEX SD-T. Lower temperatures and/or higher humidity conditions will extend this time, higher temperatures and lower humidity will shorten this time.

SPECIFIC CONDITIONS AND ABRASION RESISTANCE

Independent tests carried out by Aston University have shown that ARDEX SD-T has excellent abrasion resistance, having a rating of at least AR1. This is classified by BS 8204 as being suitable for very high abrasion and heavy wheeled traffic, such as found in heavy duty industrial workshops, warehouses etc. Certain sealer coats were shown to further improve the abrasion resistance up to special category status.

ARDEX SD-T Industrial Floor System is intended for forklift traffic and similar use. Excessive service use, such as dragging of heavy metal equipment or loaded pallet trucks with protruding nails can cause gouging and surface damage.

NOTE: Where resin paints and coatings are used the abrasion resistance of the surface will depend on the resin coating.

COVERAGE

Approximately 1.54kg ARDEX SD-T powder/m²/mm, e.g. one 25kg bag will cover approximately 3.25m² at 5mm thick.

Approximately 1.87kg ARDEX SD-T B base mix powder/m²/mm, e.g. one bag will cover approximately 1.9m² at 7mm thickness.

NOTE: The coverage figure is based on a flat level surface, additional material should be allowed for where the surface is rough or uneven.

PACKAGING

ARDEX SD-T and ARDEX SD-T B base mix are packed in paper sacks incorporating a polyethylene liner - net weight 25kg.

STORAGE AND SHELF LIFE

ARDEX SD-T and ARDEX SD-T B base mix must be stored in unopened packaging, clear of the ground in cool dry conditions and be protected from excessive draught. If stored correctly, as detailed above, the shelf life of these products is 12 months from the date shown on the packaging.

PRECAUTIONS

ARDEX SD-T and ARDEX SD-T B base mix are considered non-hazardous in normal usage. The presence of cement in the product gives an alkaline mortar which may cause some local irritation if prolonged contact with the skin takes place. Care should be taken to avoid inhalation or ingestion of dust and prevent contact with the eyes.

For further information, consult the relevant health and safety data sheet.

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TECHNICAL DATA

ARDEX SD-T

| | |
|----------------------|--------------------------|
| Working time at 20°C | approximately 15 minutes |
| Flow life at 20°C | approximately 10 minutes |
| Initial Set (Vicat) | approximately 20 minutes |
| Final Set (Vicat) | approximately 60 minutes |

Typical Compressive Strength in accordance with DIN 1164

| | |
|---------|----------------------|
| 1 day | 15 N/mm ² |
| 7 days | 30 N/mm ² |
| 28 days | 36 N/mm ² |

Flexural Strength in accordance with DIN 1164

| | |
|---------|---------------------|
| 1 day | 3 N/mm ² |
| 7 days | 5 N/mm ² |
| 28 days | 8 N/mm ² |

Ball Pressure Hardness

| | |
|---------|----------------------|
| 1 day | 50 N/mm ² |
| 7 days | 55 N/mm ² |
| 28 days | 80 N/mm ² |

Abrasion Resistance

The abrasion resistance of ARDEX SD-T, when measured in accordance with BS 8204, was rated as AR1.

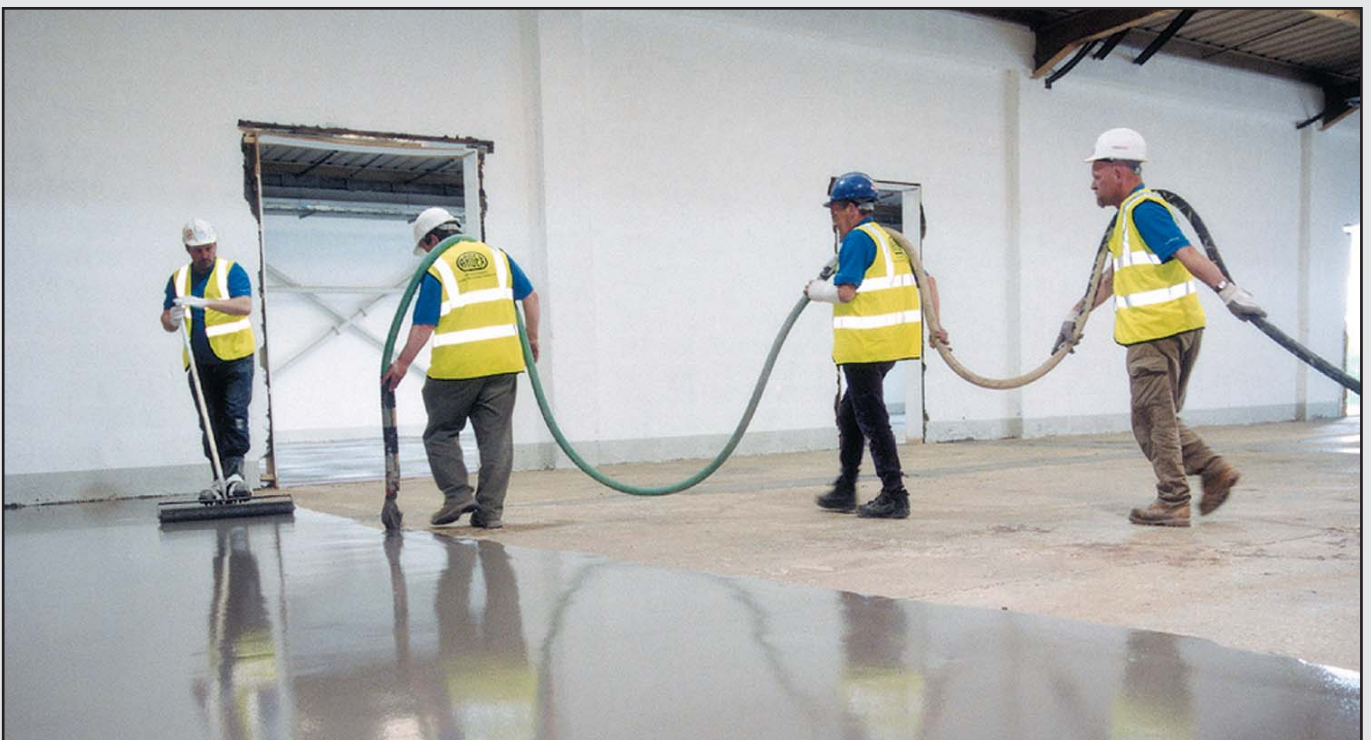
ARDEX SD-TB base mix

| | |
|------------------------|----------------------------|
| Weight of fresh mortar | approximately 2.16kg/litre |
| Working time at 20°C | approximately 20 minutes |
| Flow life at 20°C | approximately 10 minutes |
| Initial Set (Vicat) | approximately 1½ hours |
| Final Set (Vicat) | approximately 2 hours |

Compressive Strength

| | |
|--------------------|------------------------------------|
| (DIN 1164) 28 days | approximately 30 N/mm ² |
|--------------------|------------------------------------|

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.



Pumped application of ARDEX SD-T