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TECHNICAL BULLETIN – TB231

APPLICATION FOR ARDEX E90 IMPROVER AND ABALASTIC WITH ARDEX TILE ADHESIVES

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INTRODUCTION & SCOPE

ARDEX tile adhesives can be used in many situations as one-part materials. However, some situations require the addition of a polymer liquid to improve the adhesive's properties. These situations include high-stress or load environments, external applications or immersion, and application onto flexible substrates.

BACKGROUND INFORMATION

This bulletin recommends situations where liquid additives can be incorporated into tile adhesives. Recommendations are based on volume proportion to the basic mix designs based on 20kg bags (or 15kg where applicable). Liquid additives should not be added to ARDEX adhesives not listed in this bulletin, as unexpected results can occur, such as delayed drying or cure and slower strength development.

Adding the liquid additives affects application rheology, resulting in a stiffer product. Setting times are generally extended and curing and drying tend to be slower than with unmodified adhesives.

The addition of the additives can change the adhesive deformation rating for some of the adhesives to S1 or S1 to S2, depending on the original adhesive category. Refer to the product datasheets for further details.

The additives should not be considered volumetrically equivalent to water because the liquids contain polymeric materials, so they are not entirely liquid but a mixture of water and solids.

DEFINITIONS

High-stress applications: This refers to situations such as commercial buildings with high foot traffic, car garages or showrooms, areas subject to pallet jacks, external walking areas such as footpaths, flexible surfaces such as elevator car floors, external areas with heavy or large format tiles such as stonework. It also refers to areas exposed to sun and rain, areas subject to vibrations (near rail lines or high winds), limited freeze-thaw applications and areas subject to seismic activity.

Flexible surfaces: Any non-masonry surface where deflection exceeds a defined figure $1/360^{\text{th}}$ or $1/500^{\text{th}}$ of the floor joist span. It can refer to a reduced-thickness slab typical of post-tensioned concrete. None of these adhesives (that contain polymer additives) are intended for direct adhesion to timber flooring. Some may be used with fibre-cement sheet underlay applied to the timber surface. This bulletin covers adhesives used with mats, such as ARDEX DS40 sound deadening, and the Flexbone decoupling sheets UI 720 and UI 740.

Compressed Sheet: A fibre-cement flooring sheet with a minimum thickness of 15mm compressed to achieve increased density. This does not refer to 9—or 12-mm wall CFC sheeting or the specialised reduced-density sheets such as James Hardie Scyon™, which has its recommendations.

Waterproof Membranes: This refers to flexible ARDEX membranes such as ARDEX WPM130, WPM155, WPM002, WPM750 or WPM1000. Rigid or semi-rigid membranes such as WPM368



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or WPM300 do not require additives in the adhesive for flexibility, but they may be required for other application reasons. These adhesives are not suitable for ARDEX Butynol.

MIX DESIGNS AND TYPICAL APPLICATIONS

Product	Application examples	Additive	Additive litres	Water litres
S28N 20kg	<ul style="list-style-type: none"> High-stress applications Heated subfloors Flexible surfaces, including plasterboard or fibre-cement sheeting (internal walls) Over DS40 or other approved matts and sound deadening When used for direct fixed to fibre-cement sheeted timber flooring External adhesion to glass or highly vitrified porcelain tiles 	E90	Walls 2 to 2.4 Floors 1.8 to 2.2	4 to 4.8 2.2 to 4.3
X77 15kg	<ul style="list-style-type: none"> High-stress applications Heated subfloors Flexible surfaces, including plasterboard or fibre-cement sheeting (internal walls) Over DS40 or other approved matts and sound deadening When used for direct fixed to fibre-cement sheeted timber flooring Improved performance for glass or highly vitrified porcelain tiles Improved performance for bonding to compressed sheet flooring Swimming pools 	E90	2.5	5.5
X7 20kg	<ul style="list-style-type: none"> Increased stress applications Heated subfloors Flexible surfaces, including plasterboard or fibre-cement sheeting (internal walls) Improved performance in external applications Improved performance for use over ARDEX membranes Improved performance for adhesion to glass or highly vitrified porcelain tiles Improved performance for bonding to compressed sheet flooring Concrete swimming pools 	E90	3.6	3.6
	<ul style="list-style-type: none"> Increased stress applications 	E90	2.0	5.0



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X10 20kg	<ul style="list-style-type: none"> • Heated subfloors • Flexible surfaces, including plasterboard or fibre-cement sheeting (internal walls) • Improved performance in external applications • Improved performance for use over ARDEX membranes • Improved performance for adhesion to glass or highly vitrified porcelain tiles • Improved performance for bonding to compressed sheet flooring 	Abalastic Neat	6.5	0
X18 20kg	<ul style="list-style-type: none"> • High-stress applications • Heated subfloors • Flexible surfaces, including plasterboard or fibre-cement sheeting (internal walls) • Improved performance for tile-on-tile applications • When used for direct fixed to fibre-cement sheeted timber flooring (1/500 rule) • Improved performance for adhesion of glass or highly vitrified porcelain tiles • Improved performance for bonding to compressed sheet flooring • Swimming pools improved performance 	E90	2	4.5
		Abalastic Neat	6	0
Quickbond 20kg	<ul style="list-style-type: none"> • High-stress applications • Heated subfloors • Flexible surfaces, including plasterboard or fibre-cement sheeting (internal walls) • Improved performance for bonding to compressed sheet flooring • External applications • Adhesion to glass or highly vitrified porcelain tiles 	Abalastic Neat	6	0
		E90	2	4
Dunlop Floorfix 15kg	<ul style="list-style-type: none"> • External applications • Increased resilience • Improved adhesion for less porous tile types 	Primer and Additive Neat	3.5	0

**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-ISSUER

Content review, change of company slogan and address

DOCUMENT REVIEW REQUIRED

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