

TECHNICAL BULLETIN – TB231

APPLICATIONS FOR ARDEX E90 IMPROVER AND ABALASTIC WITH ARDEX CERAMIC TILE ADHESIVES

Date, Tuesday, 4 December 2018

INTRODUCTION & SCOPE

The ARDEX tile adhesives can be used in a wide range of situations as one part materials, but for some situations ARDEX recommends that an additive liquid is used to improve the cement properties. Examples of these situations include high stress or load environments, external applications or immersion and flexible substrates.

BACKGROUND INFORMATION

This bulletin lists the situations where the liquid additives are recommended by volume proportion to the basic mix designs based on 20kg bags (or 15kg where applicable). Other mix designs can be developed for specific applications as required by contacting ARDEX Technical services. Please do not mix ARDEX adhesives that are not listed with ARDEX E90 or Abalastic without reference back to Technical Services or R&D. Unexpected results can occur, and in particular delayed drying or cure and slower development of strength.

It is a typical occurrence that when the liquid additives are used, mixing and application rheology are usually stiffer, setting times are moved to the longer end of the normal range, and curing and drying are somewhat slower than the neat adhesives.

The addition of the additives alters the adhesive deformation ratings 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 equivalent volumetrically equivalent to water because the liquid contain polymeric materials and so they are not entirely liquid, but a mixture of water and solids.

DEFINITIONS

High stress applications: This refers situations such as commercial buildings with high foot traffic, car garages or show rooms, 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 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, or a reduced thickness slab typical of post tensioned concrete. None of these adhesives are intended for direct adhesion to timber flooring; some may be used with fibre-cement sheet underlay applied to the timber surface. Also optionally includes use with mats such as ARDEX DS40 sound deadening, ARDEX DS60 decoupling, and the Flexbone decoupling sheets UL720 and UL740.

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

Waterproof membranes: This refers to flexible ARDEX membranes such as WPM001, WPM155, WPM002, WPM750 or WPM1000. Rigid or semi-rigid membranes such as WPM368 or WPM300 do not require additive in the adhesive for flexibility, but it 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 metal, plasterboard or fibre-cement sheeting (internal walls) • Over DS40 or other approved mats 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
STS8W 20kg	<ul style="list-style-type: none"> • High stress applications • Heated subfloors • Flexible surfaces including metal, plasterboard or fibre-cement sheeting (internal walls) • Over DS40 or other approved mats and sound deadening • Improved performance for bonding to compressed sheet flooring • External applications • Adhesion to glass or highly vitrified porcelain tiles • Swimming pools 	E90	3.6 to 3.6	3.6 to 5.0
X77 15kg	<ul style="list-style-type: none"> • High stress applications • Heated subfloors • Flexible surfaces including metal, plasterboard or fibre-cement sheeting (internal walls) • Over DS40 or other approved mats and sound deadening • When used for direct fixed to fibre-cement sheeted timber flooring • Improved performance for to glass or highly vitrified porcelain tiles • Improved performance for bonding to compressed sheet flooring • Swimming pools 	E90	2.5	5.5



Product	Application examples	Additive	Additive litres	Water litres
X78 20kg	<ul style="list-style-type: none"> • High stress applications • Heated subfloors • Flexible surfaces including metal, plasterboard or fibre-cement sheeting (internal walls) • Over DS40 or other approved mats and sound deadening • When used for direct fixed to fibre-cement sheeted timber flooring • Improved performance for adhesion to glass or highly vitrified porcelain tiles • Optional over P82 primed surfaces • Improved performance for bonding to compressed sheet flooring 	E90	3.6	4.4
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
X10 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 • <i>Improved performance for adhesion to glass or highly vitrified porcelain tiles</i> • Improved performance for bonding to compressed sheet flooring 	E90	2.0	5.0
		Abalastic Neat	6.5	0



Product	Application examples	Additive	Additive litres	Water litres
X18 20kg	<ul style="list-style-type: none"> • High stress applications • Heated subfloors • Flexible surfaces including metal, 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) • <i>Improved performance for adhesion to glass or highly vitrified porcelain tiles</i> • 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 metal, plasterboard or fibre-cement sheeting (internal walls) • Over DS40 or other approved mats and sound deadening • 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

Addition of E90 to Quickbond. Also ARDEX WPM1000, ARDEX DS40, ARDEX DS60, ARDEX UL720 and 740.

REVIEW PERIOD

36 months from issue

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