

WESTVALE CASE STUDY:

Spray Plaster Overview – Knauf Airless Finish

Knauf Airless Finish Is A Highly Efficient Spray Applied Alternative To Traditional Plaster For Finishing Walls And Ceilings.

KNAUF



**MORGAN
SINDALL**
CONSTRUCTION

	Knauf Airless Finish
Substrate/Purpose	Wallboard, smooth concrete and previously decorated surfaces *
Thickness (one layer)	1 - 2mm (Prior to decoration)
Drying Time	12 - 24 h
Tip Size	531-535 (Applied using an airless high pressure piston pump machine)
Sizes Available	25kg
Coverage (1mm thickness)	Up to 22m ²
Finish	White
Shelf Life	12 months
Fire Performance	Reaction to fire EN 13501-1 AS-c1 d0

Why is it so thin?

You do not need the same thickness to obtain the same performance characteristics. Polymer and organic binders are added, so the performance characteristics are different to gypsum based plaster. Minimum depth is 1.5mm typically 2mm after full application, compared to 3mm for gypsum based products.

Application/Installation

* Suitable Substrates

Knauf Airless Finish is suitable as a direct finish coat onto smooth backgrounds such as plasterboards manufactured to BS EN 520:2004+A1:2009 or fair face concrete.

Knauf airless is suitable for use with all plasters and jointing materials manufactured to BS EN 13279-1:200 and BS EN 13963:2014.



Registered site
www.ccscheme.org.uk

Site Registration: 119881

Spray Plaster Pros and Cons

Reduction in preparation time...

	Powder	RMP	Difference
Bags required	1,500	937.5	562.5
Bags per mix*	3	5	2
No. of times need to mix/open	500	188	313
Time taken each mix/opening, mins	10	5	5
Time spent mixing, hours	83	16	68

- 3 bags of powder mixed at a time, 5 bags of RMP into hopper at a time

Conclusion for a 15,000m2 project:

68 hours of preparation can be saved when using RMP instead of traditional powder plasters. This is approx. 27 minutes per 100m2.

Benefits of readymix preparation:

- Less prep time means more work can be achieved
- **No manual mixing** means increased **consistency** in product performance

Project size...

Not feasible for small projects or projects released in phases of under 800m2 (Knauf opinion based on prep, coverage and drying times).

Reduction in water usage...

	Powder	RMP	Difference
Bags required	1,500	937.5	562.5
Water required, L	17,250	6,562.5	10,687.5
Wastage allowance, L	1,725	65.6	1,659.4
Total water required, L	18,975	6,628	12,356.9

NB. 1 ltr of water used for every 1kg of powder when mixing

Conclusion for a 15,000m2 project:

RMP would use over **12,000 litres less water** than a powder equivalent. This is 1.02 litres per m2. A **65% reduction**.

Benefits of less water:

- No need for onsite water / less water used
- Less spillages and mess
- Improved moisture control of the building
- Quicker drying times
- Positive environmental impact

Increase in application time...

Applied using a piston pump machine, Knauf Airless Finish is applied directly onto smooth surfaces up to **three to four times faster** than conventional plastering and drying times are fast enough to allow follow on trades to begin work within two days.

Taking 25kg of product, traditional plaster only covers around 10m² whereas Knauf Airless covers up to 22m² at 1mm.

Surface finish/colour...

While traditional plaster dries pink, Knauf Airless Finish **dries white**, creating the ideal background for decorators to begin working on the surfaces.

Skill of labour...

Misconceptions that the system is 'easier' than traditional resulting in many trying and failing.

Spray Plaster Pros and Cons Continued...

Sustainability...

From a **CO2** perspective, transport costs will be similar to traditional products. This is because the airless plaster pallets cannot be stacked so 24-26 is the maximum that can be delivered on a vehicle. Whereas, the powder gypsum products can be and therefore more material can be delivered on one truck, subject to access etc. However, manufacturing use of energy per ton are less, **5kw of energy are saved per ton of material** in the manufacturing process along with water used being filtered and recycled.

Onsite, the empty bags are **recycled plastic** and can be recycled in the plastics skip, **less than 1% material waste** is seen and this can go to landfill as this is not a gypsum based product. Saving significant cost of disposal. Gypsum is typically 15-17%. Wastage is also reduced as excess product can be skimmed from surfaces and recycled back into the machine's hopper for re-use.

Finally, we are all aware of dust control requirements on site, and whilst there is an element of sanding with these products they contain only **trace silicate**, well below HSE recommended levels and certainly much lower than gypsum based products. There are also **no chemical primers or bonding agents**.



Sustainability Credentials

Recyclability	Can be Disposed as General Waste
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Evidence to support BREEAM Certification

Credit Ref	Credit Title	Supporting Evidence
HEA 02	Indoor Air Quality	VOC Content After 3 Days <1 g/L

Bag size	Material No	Pallet Details	
kg		Bags	Tonnes (Approx)
25.0 bag	470362	40	1.0

