



AMA DRY-MIX FACTORY



Ahmed  
Mansoor  
Al Aali  
Group

## Quality Policy Statement

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**AMA Dry-Mix Factory is dedicated to the continual improvement and maintaining high levels of customer satisfaction.**

We are fully committed to consistently meeting our customer expectations and providing the highest quality of service in all our activities related to the supply of pre-mixed concrete and application of plaster.

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Providing the most cost effective and efficient services, and constantly looking at ways and means of improving the quality of our products and services.

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AMA Dry-Mix Factory is establishing, measuring, and reviewing our Quality Management System as a continual improvement process.

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Competent and professional staff who are provided with continuous training.

**The above commitment shall be achieved by the effective implementation of Quality Management Systems and setting appropriate objectives and targets.**

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# AMA DRY-MIX

## About us

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AMA Dry-Mix Factory offers the most modern factory mixed plaster application system in Bahrain with the latest German M-Tec DUOMIX application machines. An extension to the wide variety of products already offered by AMA Building Materials, AMA Dry-Mix Factory offers dry-mix products that are ready to apply directly on to the walls on delivery. In addition to the yield, speed, and efficiency gained from using AMA Dry-Mix spray machine application, the quality of factory produced AMA Dry-Mix plaster is much more reliable and productive than site mixed plaster.

Key benefits:

- Machine application ensures the homogeneous and accurate mixing of the dry-mix with water
- Eliminates the errors that can occur with manual mixing, including wastage
- AMA Dry-Mix plaster is smoother, lighter, easier and faster to apply directly on to the walls
- Increased yield coverage with Dry-Mix plaster requiring approximately 50% less material
- Provides a clean, and dust free job site adding more value to health, safety, and the environment



AMA DRY-MIX

# AMA DRY-MIX

## OUR PRODUCTS & SERVICES

### MIXED PRODUCT

- ADM-MM50
- ADM-MM100
- ADM-BR30
- ADM-BB60

### SERVICES

- Plaster Application
- Lab Services
- Consultancy



#### ADM-MM50

AMA Dry-Mix Masonry Mortar ADM-MM50 is a premixed grey masonry mortar engineered to provide long water retention, exceptional workability and superior bond strength over all masonry substrates. ADM-MM50 is a mortar class M5 masonry mortar and suitable for all interior and exterior load-bearing and partition walls.



#### ADM-MM100

AMA Dry-Mix Masonry Mortar ADM-MM100 is a masonry mortar of the class M10 especially developed for heavy load bearing walls. ADM-MM100 is characterized by its high yield and very easy workability. ADM-MM100 is ideal for all interior and exterior wall constructions where high compressive strength and fast work progress is required.



#### ADM-BR30

AMA Dry-Mix Base Render BR30 is a premixed sprayable grey render for leveling purposes. ADM-BR30 can be used on interior and exterior surfaces with minimum preparation of the wall. ADM-BR30 combines easy workability with crackfree curing. ADM-BR30 is developed for the latest automatic conveying, mixing and spraying machines.



#### ADM-BB60

AMA Dry-Mix Base Bridge ADM-BB60 is a sprayable high bonding dash coat for all smooth and difficult surfaces like fair-faced concrete or previously painted substrates. Applied with a machine, it is recognised as the most economical way to prepare fair-faced concrete walls for rendering.

Base Render

# ADM-BR30

SPEED

QUALITY

EFFECIENCY

## Features & Benefits

- Easy workabilty for fast work progress.
- Spray application for maximum m<sup>2</sup> per day.
- No dash coat needed on any blocks & bricks.
- High yield for more m<sup>2</sup> per bag.



# AMA DRY-MIX



JUMBO  
BAG



SILO

AMA DRY-MIX Factory is the leading pre-mixed product producer in Bahrain with an emphasis on quality and complete system integration. The latest German mixing technology combined with the finest raw materials sourced regionally create the perfect system for Bahrain's conditions.

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[www.amadrymix.com](http://www.amadrymix.com)

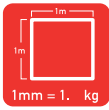
[amadrymix@al-aali.com](mailto:amadrymix@al-aali.com)



#### SUBSTRATES & USAGE



Blocks



Consumption per 1m<sup>2</sup>



Environmentally Friendly



100% noncombustible



External Use



Internal Use



Grey



C270 Type O



cen  
EN 998-1  
Class II



bsi.

#### SUBSTRATES

All concrete blocks, red clay bricks, ACC

#### Ordering & Package Size

**Machinery** As recommended by AMA Dry-Mix

**BR30 Jumbo Bag** 1,400 KG

**BR30 Silo** Up to 8,000 KG

#### Recommended Products

AMA Dry-Mix Base Bridge ADM-BB60 for preparation on fair faced concrete

# MASONRY MORTAR **ADM-BR30**

## Product Description

AMA Dry-Mix Base Render ADM-BR30 is a pre-mixed sprayable grey render for leveling purposes. ADM-BR30 can be used on all interior surfaces with minimum preparation of the wall. ADM BR30 combines easy workability with crackfree curing. ADM BR30 is optimized for the latest automatic conveying, mixing, and spraying machines.

## Technical Data

**Max. Grain Size** 1.6mm  
**Recommended thickness** 15mm  
**Compressive strength** >2.5N/m<sup>2</sup>  
**Consumption per m<sup>2</sup>** 1.33kg/mm

## Features & Benefits

- Easy workability for fast work progress.
- Spray application for maximum m<sup>2</sup> per day.
- No dash coat needed on any blocks & bricks.
- High yield for more m<sup>2</sup> per bag.

# TECHNICAL DATA SHEET

# ADM-BR30

## SPEED

## QUALITY

## EFFICIENCY

## TECHNICAL DATA

### COMPOSITION

Binder:	Grey cement Hydrated lime
Aggregates:	Graded sand (max. grain size 1.6mm)
Additives:	Organic polymers to improve consistency and workability

### SUBSTRATES

AAC (inside only), blockwork, red brick

### APPLICATION

Mixing ratio:	6.7L per 25KG
Rec. min. thickness	12mm
Max. thickness/layer	25mm

### TYPICAL PROPERTIES

Appearance:	Light grey powder
Bonding strength:	0.08N/mm <sup>2</sup>
Colour:	Grey
Compressive strength:	>2.5N/mm <sup>2</sup>
Consumption per m <sup>2</sup> :	1.33kg/mm
Flexural strength:	>0.8N/mm <sup>2</sup>
Mortar class:	BS EN 998-1 CS II
Yield: approx.	760L/Ton

### CONFORMITY

BS EN 998-1:2016  
ASTM C270 Type O

### FIRE CLASSIFICATION

A1, 100% noncombustible(EN 13501-1)



# AMA DRY-MIX

## BASE RENDER ADM-BR30

### PRODUCT DESCRIPTION

AMA Dry-Mix Base Render ADM-BR30 is a premixed sprayable grey render for leveling purposes. AMA Dry-Mix Base Render ADM-BR30 can be used on all interior surfaces with minimum preparation of the wall. AMA Dry-Mix Base Render ADM-BR30 combines easy workability with crackfree curing. AMA Dry-Mix Base Render ADM-BR30 is developed for the harsh Middle East climate conditions and optimized for the latest automatic conveying, mixing and spraying machines.

### TYPICAL APPLICATIONS

AMA Dry-Mix Base Render ADM-BR30 is used primarily for leveling purposes on any interior brick and block work before applying a decorative thin coat render. AMA Dry-Mix Base Render ADM-BR30 can also be used to create a semi-rough finish, ready for painting.

### FEATURES & BENEFITS

- No dash coat needed on any blocks and bricks
- Spray application for maximum m<sup>2</sup> per day
- Easy workability for fast work progress

### APPLICATION PROCEDURE

#### Surface preparation:

All surfaces must be clean, sound, and free from all traces of oil, grease, mold release agent, and curing compound. Concrete, renders, and blockwork should be cured sufficiently and that all shrinkage has occurred. Fair-faced concrete or other smooth low absorbent substrates should be prepared with AMA Dry-Mix Base Bridge ADM-BB60. Larger surface inconsistencies should be filled and leveled out with ADM-BR30 in advance.

#### Mixing instructions:

Add 25KG of AMA Dry-Mix Base Render ADM-BR30 to 6.7L of cool, clean and salt-free water. Mix to a uniform lump free consistency ideally with a mixing machine at slow speed. AMA Dry-Mix Factory recommends to use AMA Dry-Mix Base Render ADM-BR30 with an automatic mixing and spraying machine to enhance mixing quality and increase productivity.

#### Application instructions:

Dampen substrate with clean and salt-free water directly before application. Apply layer of material with trowel or spray gun to the wall. Don't exceed maximum thickness per layer of 25mm. If required thickness exceeds 25mm apply material in several layers. Distribute and level applied material with aluminum profile within maximum 10 minutes after application. Wait until material starts setting properly. Setting time of the product may vary largely depending on climatic conditions, substrates and application thickness. Open surface by scratching with rabbit to enable release of residual moisture. Wait for 30 minutes before finishing the surface with sponge float or other tool to create desired design.



# TECHNICAL DATA SHEET

## ADM-BR30

SPEED

QUALITY

EFFICIENCY

### TECHNICAL DATA

#### NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local AMA Dry-Mix representative.

AMA Dry-Mix reserves the right to have the true cause of any difficulty determined by accepted test methods.

#### QUALITY & CARE

All products originating from AMA Dry-Mix Factory are manufactured under conformity to the requirements of the quality, environmental and occupational health & safety standards of the above mentioned BS, EN, SASO, ASTM, ISO and DIN EN norms.

#### DISCLAIMER

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labor involved in the application are beyond our control.

All data is derived by approved testing methods and application experiments under laboratory conditions. Deviations are possible under practical conditions. As all AMA Dry-Mix Factory technical datasheets are updated on a regular basis it is the user's responsibility to obtain the most recent issue.



# AMA DRY-MIX

## BASE RENDER ADM-BR30

#### Curing:

Cure for 2 – 3 days before over coating. During rapid drying conditions such as hot climate, curing with a fine spray of clean water is required.

#### APPLICATION TEMPERATURE

Do not use material below 5°C, schedule work for morning hours during extreme heat

#### LIMITATIONS OF USAGE

- Avoid applying the material on to hot surfaces
- Always add material to the water
- Do not re-temper mixed material
- Do not mix with any other material

#### TECHNICAL INFORMATION

Consult the AMA Dry-Mix Technical Services Department for specific recommendations concerning all other applications. Visit the AMA Dry-Mix Factory website [www.amadrymix.com](http://www.amadrymix.com) for additional information about products, systems and for updated literature.

#### SAFETY PRECAUTIONS

As with all building products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eye and skin immediately. If accidentally ingested, seek immediate medical attention. Use in well ventilated areas. Avoid inhalation of dust when using powdery products. Wear suitable protective gloves, safety goggles and respiratory protection mask.

#### STORAGE

Store out of direct sunlight, clear of the ground on pallets protected from rainfall. Avoid excessive compaction. Shelf life is 9 months for all dry mortar products and 3 months for all liquids. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult AMA Dry-Mix's Technical Services Department.

#### PACKAGING

Jumbo bag	1,400 KG
Silo	Up to 8,000 KG



# MATERIAL SAFETY DATA SHEET ADM-BR30 SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 1. Product and company identification

Registered Trade Name:	<b>BASE RENDER ADM-BR30</b>
Grain sizes in mm:	0 – 1.6 mm
Usage or Preparation:	Factory-blended grey render for hand and spray application.
Information on the manufacturer/supplier:	AMA Dry-Mix Factory P. O. Box: 778, Building 13 ,Gate 1347, Road 5225, Ras zuwyed 952, kingdom of Bahrain. T: +973 17265655/56 F: +973 17830802 E: amadrymix@al-aali.com W: www.amadrymix.com

### 2. Possible dangers

Classification:	This product is excluded from the specific labeling requirements of 1999/45/EG and guideline 67/548/EWG.
Description of dangers: Special danger designations for man and environment:	Not applicable
Note for medical doctors:	Dust may cause irritations at eyes and respiratory tract.  Show this data sheet to attending doctor.

### 3. Composition/information on ingredients

Component	CAS No:	Percent (by weight)
Binder	65997-15-1	> 20%
Aggregate	471-34-1 / 93763-70-3	50 - 80%
Filler	471-34-1	> 25%
Additive	65996-63-6 / 9004-67-5	> 10%
Index no:	Not controlled / Not regulated	
Additional details:	Not applicable	

### 4. First aid measures

After inhalation:	Move affected person to fresh air. If nose or airways become inflamed seek medical attention.
After skin contact:	Wash the affected area thoroughly with soap and water. If irritation continues seek medical advice. Clothing contaminated with wet product should be removed and washed thoroughly before reuse.
After eye contact:	Wash eyes immediately with plenty of clean water for at least 15 minutes and seek medical advice without delay.
After ingestion:	If swallowing has occurred do not induce vomiting. Give person plenty of water to drink. Seek medical attention.

# MATERIAL SAFETY DATA SHEET ADM-BR30 SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 5. Fire-fighting measures

General information:

Not applicable. This product is non-combustible. Also there is no special risk by its preparation or the comprised elements.

Firefighting protective equipment:

Not applicable

Exposure hazards:

Do not release water contaminated with Portland cement into surface water drains.

### 6. Accidental release measures

Personal precautions:

Avoid contact with skin, eyes and clothing. Avoid breathing dust.

Environmental precautions:

Prevent contamination of surface water.

Methods of cleaning:

Recover spillage in dry state if possible. Minimize generation of airborne dust. The product can be slurried with water. Keep children away from clean up operations. Dispose to a place authorized to accept builder's waste. Small quantities can be disposed of as normal household waste.

### 7. Handling and storage

Notes for safe handling:

When handling bags of Portland cement-based products, due regard should be paid to Manual Handling Operations Regulations. Some bags may have a small amount of cement dust on their outer surface. Appropriate personal protection should be used whilst handling.

Risks at preparation:

Avoid formation of dust. The usage of particle filtered protective mask P2 is required if the dust concentration rises above the reference value.

Notes for fire and explosion protection:

Non-combustible

Storage space and vessel requirements:

Not applicable

Information for combined storage:

Not applicable

Additional designation of the storage requirements:

Protect against humidity Storage classifications: Not applicable

### 8. Exposure controls/personal protection

Technical protective measures:

No special measures required

Limits of exposure:

Workplace Exposure Limits (OES) Limits 8 hour TWA (According to EH40/05)  
Total inhalable dust: 10mg/m<sup>3</sup> Respirable dust: 4mg/m<sup>3</sup>

Components which have to be monitored according to limits based on the workplace:

Not applicable

Additional notes according to limits:

Not applicable

#### Personal protection

Measures of safety and hygiene: Not necessary

Respiratory protection:

Suitable respiratory protection should be worn to ensure that personal WEL is not exceeded. If care is taken not to raise dust during handling the use of respirators is not normally necessary.

Eye protection:

Wear safety glasses with side shields to protect against eye contact.

Hand protection:

Wear suitable protective gloves in order to minimize skin contact.

Body protection:

Wear general purpose work overall to protect skin from irritation.

Disclaimer: All information given on this technical data sheet is for general guidance only. AMA Dry-Mix reserves the right to change specifications without prior notice; always refer to the latest version at [www.amadrymix.com](http://www.amadrymix.com)

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**MATERIAL SAFETY  
DATA SHEET  
ADM-BR30  
SPEED  
QUALITY  
EFFICIENCY**



**AMA DRY-MIX**

**9. Physical and chemical properties**

Physical state:	Solid / powder
Appearance:	Light grey powder
Odour:	Odourless
<b>Change in state:</b>	
Boiling point:	Not expedient; It's a mineral product
Melting point:	Approx. 1200°C (1650°F), published values of container glass
Softening point:	Not applicable
Flashpoint:	Non-combustible
Explosion limit:	Not applicable
Vapour pressure:	Not applicable
Specific gravity:	1440KG/m <sup>3</sup> (±50KG)
Solubility in water:	Slight, reacts on mixing with water forming an alkaline (caustic) solution (pH > 11) ph-value: 8-11 (20°C / 100g/L in 1L of water), pH-meter
Danger of dust explosion:	Not applicable Additional information
Viscosity:	Not applicable
Vapour density:	Not applicable
N-octanol-water partition coefficient:	Not definable; adipic insolvable solid

**10. Stability and reactivity**

Stability:	Chemically stable
Conditions to avoid (stability):	Not applicable
Incompatibility (material to avoid):	None
Hazardous decomposition or by-products:	None

**11. Toxicological information**

Acute toxicity (LD50/LC50):	RTECS unavailable
Inhale:	None known
Skin contact:	Not applicable
Sensitisation:	None known
Eye contact:	Irritations may appear
Ingestion:	Irritations of the mouth, trachea, stomach and intestines may appear.
CMR effects (carcinogenity, mutagenity and toxicity for reproduction):	None known
Subacute or chronic toxicity:	None known
Repeated dose toxicity:	None known

**12. Ecological information**

Information for degradation:	Biological non-degradable as of mineral origin
Mobility in the soil:	Not applicable
Exotoxic effects:	Not applicable

**MATERIAL SAFETY  
DATA SHEET  
ADM-BR30  
SPEED  
QUALITY  
EFFICIENCY**



**AMA DRY-MIX**

**13. Disposal considerations**

AVV Refuse code: 170202  
Refuse description: Portland Cement  
AVV packing: Not applicable

**14. Transport information**

Road transportation ADR/RID and GGVSE GGVSE: Not a hazardous material  
RID/ADR: Not applicable  
Warning sign No.: Not applicable  
Inland waterway transportation AND/ADNR: Not a hazardous material  
**Sea transport**  
IMDG/GGVSea: Not a hazardous material  
IMO: Not a hazardous material  
UN-No.: Not applicable  
GGVSea-packing group: Not applicable  
EMS: Not applicable  
MFAG: Not applicable  
Air transportation ICAO/IATA: Not a dangerous good  
ICAO packing group: Not applicable  
**Transport/additional information:** Protect from humidity max. blowing pressure: 0.8 bar

**15. Regulation on assessment of material safety**

**Guidelines by EC**

Danger symbol: Not applicable  
Danger defining components: Not applicable  
R-phrases: Not applicable  
S-phrases: S 24/25 Avoid contact with skin and eyes  
Special identification of certain preparations: Not applicable

**16. Other information:**

The details are based on today's state of our knowledge and serve to describe the product with regard to the correct safety regulations. It does not represent any assurance of product properties and does not give reasons for any contractual facts of the case. Users must decide even on the suitability of this information for her certain purpose.

METHOD  
STATEMENT  
**ADM-BR30**  
SPEED  
QUALITY  
EFFICIENCY



**AMA DRY-MIX**

Introduction	<p>AMA Dry-Mix Base Render ADM-BR30 is a spray/mixing machine optimised factory pre-mixed render. It's primary function is to create a base coat or finishing render for internal wall applications. It can be sprayed to a thickness of 60 mm in one day if so required.</p> <p>AMA Dry-Mix Base Bridge ADM-BR30 will not require a dash coat when applied on concrete blocks unless project specs require a dash coat.</p> <p>The AMA Dry-Mix production site in the Kingdom of Bahrain uses the most advanced mixing technology from M-tec, Germany.</p> <p>AMA Dry-Mix is committed to its task in the development and adaptation of dry mortar standards for Bahrain's construction industry.</p> <p>AMA Dry-Mix Base Render ADM-BR30 has been used on key projects across Bahrain, please contact our technical department for further information or references.</p>
Testing and Compliance	<p>AMA Dry-Mix maintains a fully staffed laboratory for raw material and production control testing in accordance with all current ISO, GSO, SASO and EN standards for dry mortar testing methods.</p> <p>All test results are backed up by independent third party testing.</p>
Environmental Suitability	<p>AMA Dry-Mix Base Bridge ADM-BR30 was developed specially for the harsh climatic conditions of the Middle East using longstanding German expertise in dry mortar formulations. Only leading brands of additive suppliers are used in the production, such as Wacker or Dow Chemicals.</p>

# METHOD STATEMENT ADM-BR30

SPEED  
QUALITY  
EFFICIENCY



## AMA DRY-MIX

Pumping / Mixing	AMA Dry-Mix Base Renders are a mixing/pumping machine optimised factory pre-mixed Base Render with outstanding workability qualities to provide excellent plastering with maximum labour savings, even if used for hand mixing and application.
Suitable Substrates	<p>AMA Dry-Mix Base Render ADM-BR30 is an approved base coat or finishing render for internal wall application. It can be sprayed to a thickness of 60mm (in two layers) if required. Levelling spots should be ready and all joints covered with appropriate lath or fibre mesh.</p> <ul style="list-style-type: none"> <li>All types of concrete blocks, new (without Dash Coat)</li> <li>All types of fair face concrete walls. (With AMA Dry-Mix Base BridgeADM-BB60 Dash Coat)</li> <li>Old block in renovation stage (with AMA Dry-Mix Base Bridge ADM-BB60 Dash Coat) recommended</li> </ul>
Surface Preparation	<ul style="list-style-type: none"> <li>Protect any adjacent area to the work area</li> <li>Remove all adhesion limiting contamination, such as dust, splatter, dirt or other contact limiting materials</li> <li>It is advisable to dampen the walls by mist- spraying sweet water prior to plastering</li> <li>Where possible apply in the shade</li> </ul>
Mixing by hand or drill	<ul style="list-style-type: none"> <li>Select a clean vessel appropriate to the size of job on hand</li> <li>Fill vessel with the required amount of sweet water</li> <li>Slowly add the required amount of AMA Dry-Mix Base Render ADM-BR30 under constant mixing</li> <li>If using a mixing drill select a slow speed</li> <li>Mix thoroughly until a smooth consistency is acquired ready for immediate use</li> </ul>
<b>Important!</b>	<b>Do not mix the material with any other material and do not re-temper.</b>

METHOD  
STATEMENT  
**ADM-BR30**  
SPEED  
QUALITY  
EFFICIENCY



**AMA DRY-MIX**

<p>Mixing with continuous mixing machine</p>	<p>(example: AMA Dry-Mix M-Tec D50)</p> <ul style="list-style-type: none"> <li>▪ Select a clean bucket or wheelbarrow appropriate to the size of job on hand</li> <li>▪ Fill the machine hopper with AMA Dry-Mix Base Render ADM-BR30</li> <li>▪ Connect the machine to power and water and adjust the water amount to ensure the correct mixing consistency.</li> </ul> <p>The mix is ready for immediate use.</p>
<p><b>Important!</b> <b>Do not mix the material with any other material and do not re-temper.</b></p>	
<p>Mixing with continuous mixing machine and pumping machine</p>	<p>(example: AMA Dry-Mix M-Tec Duo-Mix)</p> <ul style="list-style-type: none"> <li>▪ Fill the machine hopper with AMA Dry-Mix Base Render ADM-BR30 (if using a fully automatic material conveying system this step is not necessary)</li> <li>▪ Connect the machine to power and water and adjust the water amount to ensure the correct mixing consistency</li> <li>▪ Connect a 35 mm diameter conveying hose</li> <li>▪ Maximum three 35 mm diameter hoses of 13.5 meter length may be used</li> <li>▪ Prime the conveying hose as per instructions</li> <li>▪ Spray the material for the first layer on wall starting from top to bottom then move to next area and allow to set for 2 days/cm thickness</li> <li>▪ Spray intermediate/finish level and level out surface with H-Profile</li> <li>▪ Finish surface within 4-5 hours from spraying in hot weather or next day in cold weather</li> </ul>

METHOD  
STATEMENT  
**ADM-BR30**

**SPEED**  
**QUALITY**  
**EFFICIENCY**



**AMA DRY-MIX**

Mixing with continuous  
mixing machine

D50 Mixing machine



Mixing with continuous  
mixing and pumping  
machine

AMA Dry-Mix M-Tec Duo-Mix



**Important**

Please contact our Technical Service Division for further information on machines.



METHOD  
STATEMENT  
**ADM-BR30**

**SPEED**  
**QUALITY**  
**EFFICIENCY**



**AMA DRY-MIX**


<p>Surface Preparation &amp; Application Method</p>	<p>Application of AMA Dry-Mix Base Render ADM-BR30 <b>Preparation (all methods):</b></p> <ul style="list-style-type: none"> <li>▪ Protect any adjacent area not to be covered with AMA Dry-Mix Base Render ADM-BR30</li> <li>▪ Set level points at desired thickness</li> <li>▪ Dampen surface by mist spray</li> <li>▪ Where possible apply in the shade</li> <li>▪ Work from the top down</li> </ul>
<p>Application by Hand</p>	<ul style="list-style-type: none"> <li>▪ Apply evenly with a plasterers trowel in layers of 20 mm thickness</li> <li>▪ If greater thickness is desired allow 1-2 hours between successive layers to a maximum of 6 cm. The last 15 mm should then be applied after a curing period of 2days per cm thickness.</li> <li>▪ Immediately level with featheredge straightedge fill all hollows and even out</li> <li>▪ Finish with float, sponge to desired decor</li> <li>▪ If used as a base for the following coat of another material, only level out and leave surface open to aid adherence of successive coat</li> </ul>

# METHOD STATEMENT ADM-BR30

**SPEED  
QUALITY  
EFFICIENCY**



## AMA DRY-MIX

<p>Application by Spray Gun</p>	<ul style="list-style-type: none"> <li>▪ Spray evenly and methodically in sections of about 2 meters high by 1 meter wide to a thickness if maximum 35 mm.</li> <li>▪ If greater thickness is desired allow 1 hour between successive layers to a maximum of 6 cm. The last 15 mm should then be applied after 24 hours.</li> <li>▪ Immediately level with featheredge straightedge, fill all hollows and even out</li> <li>▪ Allow to set, time is depending on material thickness, temperature etc.</li> <li>▪ Finish with float, sponge to desired decor</li> <li>▪ If used as a base for following coat by other material only level out and leave surface open to aid adherence of successive coat</li> </ul>
<p>Suggested Application Methods</p>	<p>Spray Gun Application</p> 

METHOD  
STATEMENT  
**ADM-BR30**  
SPEED  
QUALITY  
EFFICIENCY



**AMA DRY-MIX**

Curing of AMA Dry-Mix ADM-BR30

**INSIDE APPLICATION**

Climatic Condition	Preparation	Curing	Climatic Condition
Enclosed Space without draft	Close windows or doors to exclude draft	Base coat	No curing
		Intermediate Coat	No curing
		Final Coat	No curing
Open Space in hot / dry / draft conditions	Reduce draft where possible	Base coat	No curing
		Intermediate Coat	Apply 1x After 3 hours, fine mist spray with salt-free clean water
		Final Coat	Apply 1x After 3 hours, fine mist spray with salt-free clean water
Paint Application	Allow 36 hours minimum for application of mineral paints		


End of Method Statement.

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METHOD  
STATEMENT  
**ADM-BR30**  
SPEED  
QUALITY  
EFFICIENCY



**AMA DRY-MIX**

<p>Embedding of Fibre Glass Mesh</p>	<p>For Thickness of Render of more than 5 cm in total:</p> <ul style="list-style-type: none"> <li>▪ Embed approved fibre glass mesh in the Intermediate Layer</li> <li>▪ The mesh should be completely covered</li> <li>▪ Allow to cure before applying the final layer of render</li> </ul> <p>Mesh should be at the top 2/3rd of the total thickness.</p>
<p>Suggested Finishing Methods</p>	<p>By hand trowel, finishing can also be done finishing machines.</p> 
<p>Spills</p>	<p>Remove immediately, clean with clean water.</p>

# METHOD STATEMENT ADM-BR30

**SPEED  
QUALITY  
EFFICIENCY**



## AMA DRY-MIX

Curing of AMA Dry-Mix ADM-BR30			
INSIDE APPLICATION			
Climatic Condition	Preparation	Curing	Climatic Condition
Enclosed Space without draft	Close windows or doors to exclude draft	Base coat	No curing
		Intermediate Coat	No curing
		Final Coat	No curing
Open Space in hot / dry / draft conditions	Reduce draft where possible	Base coat	No curing
		Intermediate Coat	Apply 1x After 3 hours, fine mist spray with salt-free clean water
		Final Coat	Apply 1x After 3 hours, fine mist spray with salt-free clean water
Paint Application	Allow 36 hours minimum for application of mineral paints		

End of Method Statement.

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Base Bridge  
**ADM-BB60**



**AMA DRY-MIX**

**SPEED**

**QUALITY**

**EFFECIENCY**

**Features & Benefits**

- High adhesion for all smooth surfaces.
- Spray application for maximum m<sup>2</sup> per day.
- Interior and exterior use.
- High yield for more m<sup>2</sup> per bag.



**JUMBO  
BAG**

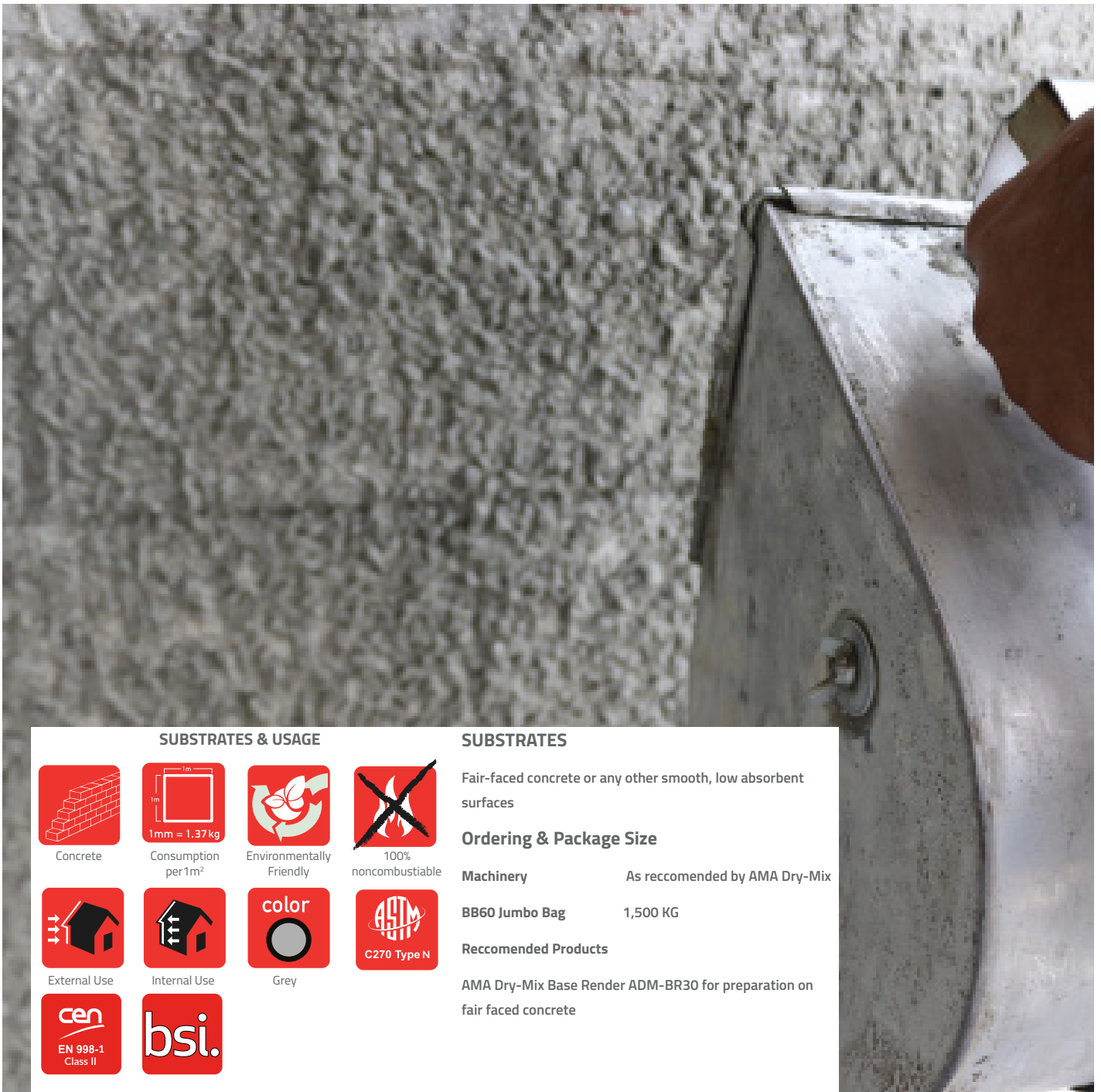
AMA DRY-MIX Factory is the leading pre-mixed product producer in Bahrain with an emphasis on quality and complete system integration. The latest German mixing technology combined with the finest raw materials sourced regionally create the perfect system for Bahrain's conditions.

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[amadrymix@al-aali.com](mailto:amadrymix@al-aali.com)



#### SUBSTRATES & USAGE



Concrete



Consumption per 1m<sup>2</sup>



Environmentally Friendly



100% noncombustible



External Use



Internal Use



Grey



C270 Type N



EN 998-1 Class II



bsi.

#### SUBSTRATES

Fair-faced concrete or any other smooth, low absorbent surfaces

#### Ordering & Package Size

**Machinery** As recommended by AMA Dry-Mix

**BB60 Jumbo Bag** 1,500 KG

#### Recommended Products

AMA Dry-Mix Base Render ADM-BR30 for preparation on fair faced concrete

## BASE BRIDGE ADM-BB60

### Product Description

AMA Dry-Mix Base Bridge ADM-BB60 is a sprayable high bonding dash coat for all smooth and difficult surfaces like fair-faced concrete or previously painted substrates. It is recognised as the most economical way to prepare fair-faced concrete walls for rendering. AMA Dry-Mix Base Bridge ADM-BB60 is specially developed for the harsh Middle East climate conditions.

### Technical Data

<b>Max. Grain Size</b>	1.6mm
<b>Recommended thickness</b>	3mm
<b>Compressive strength</b>	>3.6N/m <sup>2</sup>
<b>Consumption per m<sup>2</sup></b>	1.37kg/mm

### Features & Benefits

- High adhesion for all smooth surfaces.
- Spray application for maximum m<sup>2</sup> per day.
- Interior and exterior use.
- High yield for more m<sup>2</sup> per bag.

# TECHNICAL DATA SHEET

# ADM-BB60

## SPEED

## QUALITY

## EFFICIENCY

## TECHNICAL DATA

### COMPOSITION

Binder:	Grey cement Hydrated lime
Aggregates:	Graded sand (max. grain size 1.6mm)
Additives:	Organic polymers to improve consistency and workability

### SUBSTRATES

AAC, blockwork, concrete, fair-faced concrete, paint, red brick, render

### APPLICATION

Mixing ratio:	6.5L per 25KG
Rec. min. thickness	3mm
Rec. max. thickness	10mm

### TYPICAL PROPERTIES

Appearance:	Light grey powder
Bonding strength:	>0.5N/mm <sup>2</sup>
Colour:	Grey
Compressive strength:	>3.6N/mm <sup>2</sup>
Consumption per m <sup>2</sup> :	1.37kg/mm <sup>2</sup>
Flexural strength:	>1.5N/mm <sup>2</sup>
Mortar class:	CS II
Yield: approx.	750L/Ton

### CONFORMITY

BS EN 998-1	ASTM C144
ASTM C270 Type N	

### FIRE CLASSIFICATION

A1, 100% noncombustible(EN 13501-1)



# AMA DRY-MIX

## BASE BRIDGE ADM-BB60

### PRODUCT DESCRIPTION

AMA Dry-Mix Base Bridge ADM-BB60 is a sprayable high bonding dash coat for all smooth and difficult surfaces like fair-faced concrete or previously painted substrates. Applied with a spray machine, it is recognised as the most economical way to prepare fair-faced concrete walls for rendering. AMA Dry-Mix Base Bridge ADM-BB60 is specially developed for the harsh Middle East climate conditions and it is optimized for the latest automatic mixing and spraying machines.

### TYPICAL APPLICATIONS

AMA Dry-Mix Base Bridge ADM-BB60 is used as a substrate preparation on smooth concrete and previously painted or sealed surfaces.

### FEATURES & BENEFITS

- Strong adhesion on all smooth substrates
- Spray application for maximum m<sup>2</sup> per day
- Easy workability for fast work progress

### APPLICATION PROCEDURE

#### Surface preparation:

All surfaces must be clean, sound and free from all traces of oil, grease, mold release agent and curing compound.

#### Mixing instructions:

Add 25KG of AMA Dry-Mix Base Bridge ADM-BB60 to 6.5L of cool, clean and salt-free water. Mix to a uniform lump free consistency and allow material to stand for 5 minutes. Then mix again. Full bags ideally should be mixed in a mixing machine at slow speed. Part bags should be mixed using a slow speed drill and mixing paddle.

#### Application instructions (for use of AMA Dry-Mix Base Bridge ADM-BB60 as splatter dash coat):

Dampen substrate with clean and salt-free water directly before application. Apply mixed material to substrate with a 6mm notched trowel to achieve rough finish for next coat. Use a hopper gun or similar for a faster work progress and spray dotted layer on substrate.

#### Application instructions (for use of AMA Dry-Mix Base Bridge ADM-BB60 as levelling points):

Prepare surface as per splatter dash application and allow 2-3 days setting time before application. Apply mixed material to maximum thickness of 10mm per layer, allow to harden for about 2 hours between layers and finish to required height of levelling points

#### Curing:

During rapid drying conditions such as hot climate, curing with a fine spray of clean water is required for outside surfaces.





# TECHNICAL DATA SHEET

# ADM-BB60

## SPEED

## QUALITY

## EFFICIENCY

## TECHNICAL DATA

### NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local AMA Dry-Mix representative.

AMA Dry-Mix reserves the right to have the true cause of any difficulty determined by accepted test methods.

### QUALITY & CARE

All products originating from AMA Dry-Mix are manufactured under conformity to the requirements of the quality, environmental and occupational health & safety standards of the above mentioned BS, EN, SASO, ASTM, ISO and DIN EN norms.

### DISCLAIMER

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labor involved in the application are beyond our control.

All data is derived by approved testing methods and application experiments under laboratory conditions. Deviations are possible under practical conditions.

As all AMA Dry-Mix technical datasheets are updated on a regular basis it is the user's responsibility to obtain the most recent issue.



# AMA DRY-MIX

## BASE BRIDGE ADM-BB60

### Application Temperature:

Do not use material below 5°C, schedule work for morning hours during extreme heat.

### LIMITATIONS OF USAGE

- Avoid applying the material in direct sunlight
- Always add material to the water
- Do not re-temper mixed material
- Do not mix with any other material
- Setting time of the product may vary largely depending on climatic conditions, substrates and application thickness of the product

### TECHNICAL INFORMATION

Consult the AMA Dry-Mix Technical Services Department for specific recommendations concerning all other applications. Visit the AMA Dry-Mix website [www.amadrymix.com](http://www.amadrymix.com) for additional information about products, systems and for updated literature.

### SAFETY PRECAUTIONS

As with all building products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and food-stuffs. Treat splashes to eye and skin immediately. If accidentally ingested, seek immediate medical attention. Use in well ventilated areas. Avoid inhalation of dust when using powdery products. Wear suitable protective gloves, safety goggles and respiratory protection mask.

### STORAGE

Store out of direct sunlight, clear of the ground on pallets protected from rainfall. Avoid excessive compaction. Shelf life is 9 months for all dry mortar products and 3 months for all liquids. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult AMA Dry-Mix's Technical Services Department.

### PACKAGING

Jumbo bag      1,500 KG

# MATERIAL SAFETY DATA SHEET ADM-BB60 SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 1. Product and company identification

Registered Trade Name:	BASE BRIDGE ADM-BB60
Grain sizes in mm:	0 – 1.6 mm
Usage or Preparation:	Factory-blended bonding mortar for the preparation of low-adhesion substrates
Information on the manufacturer/supplier:	AMA Dry-Mix P. O. Box: 778, Building 13 ,Gate 1347, Road 5225, Ras zuwyed 952, kingdom of Bahrain. T: +973 17265655/56 F: +973 17830802 E: amadrymix@al-aali.com W: www.amadrymix.com

### 2. Possible dangers

Classification:	This product is excluded from the specific labeling requirements of 1999/45/EG and guideline 67/548/EWG.
Description of dangers: Special danger designations for man and environment:	Not applicable
Note for medical doctors:	Dust may cause irritations at eyes and respiratory tract. Show this data sheet to attending doctor.

### 3. Composition/information on ingredients

Component	CAS No:	Percent (by weight)	
Binder	Portland Cement / Hydrated Lime	471-34-1 / 1305-62-0	> 20%
Aggregate	Limestone	471-34-1	50 - 80%
Filler	Limestone Dust	471-34-1	> 25%
Additive	Starch / Methyl cellulose	65996-63-6 / 9004-67-5	> 10%

Index no:	Not controlled / Not regulated
Additional details:	Not applicable

### 4. First aid measures

After inhalation:	Move affected person to fresh air. If nose or airways become inflamed seek medical attention.
After skin contact:	Wash the affected area thoroughly with soap and water. If irritation continues seek medical advice. Clothing contaminated with wet product should be removed and washed thoroughly before reuse.
After eye contact:	Wash eyes immediately with plenty of clean water for at least 15 minutes and seek medical advice without delay.
After ingestion:	If swallowing has occurred do not induce vomiting. Give person plenty of water to drink. Seek medical attention.

# MATERIAL SAFETY DATA SHEET ADM-BB60 SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 5. Fire-fighting measures

General information:

Not applicable. This product is non-combustible. Also there is no special risk by its preparation or the comprised elements.

Firefighting protective equipment:

Not applicable

Exposure hazards:

Do not release water contaminated with Portland cement into surface water drains.

### 6. Accidental release measures

Personal precautions:

Avoid contact with skin, eyes and clothing. Avoid breathing dust.

Environmental precautions:

Prevent contamination of surface water.

Methods of cleaning:

Recover spillage in dry state if possible. Minimize generation of airborne dust. The product can be slurried with water. Keep children away from clean up operations. Dispose to a place authorized to accept builder's waste. Small quantities can be disposed of as normal household waste.

### 7. Handling and storage

Notes for safe handling:

When handling bags of Portland cement-based products, due regard should be paid to Manual Handling Operations Regulations. Some bags may have a small amount of cement dust on their outer surface. Appropriate personal protection should be used whilst handling.

Risks at preparation:

Avoid formation of dust. The usage of particle filtered protective mask P2 is required if the dust concentration rises above the reference value.

Notes for fire and explosion protection:

Non-combustible

Storage space and vessel requirements:

Not applicable

Information for combined storage:

Not applicable

Additional designation of the storage requirements:

Protect against humidity Storage classifications: Not applicable

### 8. Exposure controls/personal protection

Technical protective measures:

No special measures required

Limits of exposure:

Workplace Exposure Limits (OES) Limits 8 hour TWA (According to EH40/05)  
Total inhalable dust: 10mg/m<sup>3</sup> Respirable dust: 4mg/m<sup>3</sup>

Components which have to be monitored according to limits based on the workplace:

Not applicable

Additional notes according to limits:

Not applicable

#### Personal protection

Measures of safety and hygiene: Not necessary

Respiratory protection:

Suitable respiratory protection should be worn to ensure that personal WEL is not exceeded. If care is taken not to raise dust during handling the use of respirators is not normally necessary.

Eye protection:

Wear safety glasses with side shields to protect against eye contact.

Hand protection:

Wear suitable protective gloves in order to minimize skin contact.

Body protection:

Wear general purpose work overall to protect skin from irritation.

# MATERIAL SAFETY DATA SHEET ADM-BB60 SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 9. Physical and chemical properties

Physical state:	Solid / powder
Appearance:	Light grey powder
Odour:	Odourless
<b>Change in state:</b>	
Boiling point:	Not expedient; It's a mineral product
Melting point:	Approx. 1200°C (1650°F), published values of container glass
Softening point:	Not applicable
Flashpoint:	Non-combustible
Explosion limit:	Not applicable
Vapour pressure:	Not applicable
Specific gravity:	1440KG/m <sup>3</sup> (±50KG)
Solubility in water:	Slight, reacts on mixing with water forming an alkaline (caustic) solution (pH > 11) ph-value: 8-11 (20°C / 100g/L in 1L of water), pH-meter
Danger of dust explosion:	Not applicable Additional information
Viscosity:	Not applicable
Vapour density:	Not applicable
N-octanol-water partition coefficient:	Not definable; adipic insolvable solid

### 10. Stability and reactivity

Stability:	Chemically stable
Conditions to avoid (stability):	Not applicable
Incompatibility (material to avoid):	None
Hazardous decomposition or by-products:	None

### 11. Toxicological information

Acute toxicity (LD50/LC50):	RTECS unavailable
Inhale:	None known
Skin contact:	Not applicable
Sensitisation:	None known
Eye contact:	Irritations may appear
Ingestion:	Irritations of the mouth, trachea, stomach and intestines may appear.
CMR effects (carcinogenity, mutagenity and toxicity for reproduction):	None known
Subacute or chronic toxicity:	None known
Repeated dose toxicity:	None known

### 12. Ecological information

Information for degradation:	Biological non-degradable as of mineral origin
Mobility in the soil:	Not applicable
Exotoxic effects:	Not applicable

**MATERIAL SAFETY  
DATA SHEET  
ADM-BB60  
SPEED  
QUALITY  
EFFICIENCY**



**AMA DRY-MIX**

**13. Disposal considerations**

AVV Refuse code: 170202  
Refuse description: Portland Cement  
AVV packing: Not applicable

**14. Transport information**

Road transportation ADR/RID and GGVSE GGVSE: Not a hazardous material  
RID/ADR: Not applicable  
Warning sign No.: Not applicable  
Inland waterway transportation AND/ADNR: Not a hazardous material  
**Sea transport**  
IMDG/GGVSea: Not a hazardous material  
IMO: Not a hazardous material  
UN-No.: Not applicable  
GGVSea-packing group: Not applicable  
EMS: Not applicable  
MFAG: Not applicable  
Air transportation ICAO/IATA: Not a dangerous good  
ICAO packing group: Not applicable  
**Transport/additional information:** Protect from humidity max. blowing pressure: 0.8 bar

**15. Regulation on assessment of material safety**

**Guidelines by EC**

Danger symbol: Not applicable  
Danger defining components: Not applicable  
R-phrases: Not applicable  
S-phrases: S 24/25 Avoid contact with skin and eyes  
Special identification of certain preparations: Not applicable

**16. Other information:**

The details are based on today's state of our knowledge and serve to describe the product with regard to the correct safety regulations. It does not represent any assurance of product properties and does not give reasons for any contractual facts of the case. Users must decide even on the suitability of this information for her certain purpose.

# METHOD STATEMENT ADM-BB60

**SPEED  
QUALITY  
EFFICIENCY**



## AMA DRY-MIX

<p>Introduction</p>	<p>AMA Dry-Mix Base Bridge ADM-BB60 is a spray/mixing machine optimised factory pre-mixed bonding material with high adhesive power. It's primary function is it's use as a highly adhesive splatter dash over all difficult to adhere wall surfaces. ADM-BB60 is approved for internal or external use.</p> <p>AMA Dry-Mix Base Bridge ADM-BB60 can also be used as a thin coat repair render and to set levelling points for render application.</p> <p>The AMA Dry-Mix production site in the Kingdom of Bahrain uses the most advanced mixing technology from M-tec, Germany.</p> <p>AMA Dry-Mix is committed to its task in the development and adaptation of dry mortar standards for Bahrain's construction industry.</p>
<p>Testing and Compliance</p>	<p>AMA Dry-Mix maintains a fully staffed laboratory for raw material and production control testing in accordance with all current ISO, GSO, SASO and EN standards for dry mortar testing methods.</p> <p>All test results are backed up by independent third party testing.</p>
<p>Environmental Suitability</p>	<p>AMA Dry-Mix Base Bridge ADM-BB60 was developed specially for the harsh climatic conditions of the Middle East using longstanding German expertise in dry mortar formulations. Only leading brands of additive suppliers are used in the production, such as Wacker or Dow Chemicals.</p>

# METHOD STATEMENT ADM-BB60

**SPEED  
QUALITY  
EFFICIENCY**



## AMA DRY-MIX

Suitable Substrates	<p>AMA Dry-Mix ADM-BB60 is approved for the following substrates, including of, but not limited to:</p> <ul style="list-style-type: none"> <li>▪ All new and existing concrete surfaces</li> <li>▪ All new and existing cement, lime and cement/lime rendered surfaces</li> <li>▪ All concrete blocks, new or old</li> <li>▪ All types of cement sheeting</li> <li>▪ All types of clay bricks</li> <li>▪ Aerated concrete blocks</li> <li>▪ Painted surfaces with no adhesion limiting defects</li> </ul>
Preparation of Area	<p>Check that room is ready to receive BB60. Remove all debris and clear the area from all remaining objects. Ensure a safe working environment and eliminate all dangers.</p>
Surface Preparation for all <b>new</b> surfaces	<ul style="list-style-type: none"> <li>▪ Remove all adhesion limiting contamination, such as dust, splatter, dirt or other contact limiting materials</li> <li>▪ Repair all holes, missing corners or other surface defects</li> <li>▪ Prior to application brush the surface down</li> <li>▪ Thoroughly dampen the substrate by applying sweet water, repeat if necessary for highly absorbent walls during extreme heat</li> </ul>
Surface Preparation for all <b>existing/renovation</b> surfaces	<ul style="list-style-type: none"> <li>▪ Check surface for damaged, hollow, or contaminated areas and repair</li> <li>▪ Remove all adhesion limiting contamination, such as dust, splatter, dirt or other contact limiting materials. Previously painted surfaces must be removed if paint is flaking or not adhering well.</li> <li>▪ Prior to application brush the surface down, then</li> <li>▪ Thoroughly dampen the substrate by applying sweet water, repeat if necessary for highly absorbent walls during extreme heat</li> </ul>

METHOD  
STATEMENT  
**ADM-BB60**  
SPEED  
QUALITY  
EFFICIENCY



**AMA DRY-MIX**

Mixing by hand or drill	<ul style="list-style-type: none"> <li>Select a clean vessel appropriate to the size of job on hand</li> <li>Fill vessel with the required amount of sweet water</li> <li>Slowly add the required amount of AMA Dry-Mix ADM-BB60 under constant mixing</li> <li>Allow to sit for 5 minutes and stir again</li> </ul>
Mixing with continuous mixing and pumping machine	<p>(example: AMA Dry-Mix M-Tec Duo-Mix)</p> <ul style="list-style-type: none"> <li>Select a clean bucket or wheelbarrow appropriate to the size of job on hand</li> <li>Fill the machine hopper with AMA Dry-Mix ADM-BB60</li> <li>Connect the machine to power and water and adjust the water amount to</li> <li>Ensure the correct mixing consistency.</li> <li>Allow to sit for 5 minutes and stir again</li> </ul> <p><b>Please note: do not mix the material with any other material and do not re-temper.</b></p>
Application of Material (preparation for all methods)	<ul style="list-style-type: none"> <li>Protect any adjacent area not to be covered with AMA Dry-Mix ADM-BB60</li> <li>Dampen surface by mist spray</li> <li>Where possible apply in the shade</li> </ul>
Application of Material As Splasher Dash Coat (Application by hopper gun)	<ul style="list-style-type: none"> <li>Protect your eyes by wearing safety goggles</li> <li>Check consistency and select nozzle size according to approved finish</li> <li>Fill hopper gun and apply material evenly distributed throughout the surface</li> <li>Apply continually without stopping, move across to nearest break corner.</li> <li>Always ensure clean working tools</li> </ul>
Application of Material As Splasher Dash Coat (Application by spray gun)	<ul style="list-style-type: none"> <li>Protect your eyes by wearing safety goggles</li> <li>Check consistency and select nozzle size according to approved finish</li> <li>Ensure a safe working area, the application is fast and the work area must be well prepared</li> <li>Apply material evenly distributed throughout the surface</li> <li>Apply continually without stopping, move across to nearest break or corner</li> <li>Always ensure clean working tools</li> </ul>
Application of Material (for use as levelling points)	<ul style="list-style-type: none"> <li>Prepare surface as per splatter dash application and allow 2-3 days setting time before application.</li> <li>Apply mixed material to maximum thickness of 10mm per layer, allow to harden for about 2 hours between layers and finish to required height of levelling points</li> </ul>



METHOD  
STATEMENT  
**ADM-BB60**  
SPEED  
QUALITY  
EFFICIENCY



**AMA DRY-MIX**

Curing	During rapid drying conditions such as hot climate, curing with a fine spray of clean water is required for outside surfaces.
Spills	Remove immediately, clean/wash with clean water
Application Temperature	Do not use material below 5 degree Centigrade, schedule work for morning hours during extreme heat.
Limitations Of Usage	<ul style="list-style-type: none"><li>▪ Avoid applying the material in direct sunlight</li><li>▪ Always add material to the water</li><li>▪ Do not re-temper mixed material</li><li>▪ Do not mix with any other material</li><li>▪ Setting time of the product may vary largely depending on climatic conditions, substrates and application thickness of the product</li></ul>

End of Method Statement.

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AMA DRY-MIX SILO SYSTEM

OPERATING

INSTRUCTIONS

SPEED

QUALITY

EFFICIENCY



**AMA DRY-MIX**

## Contents

1. Description of silos
  - 1.1 General information
  - 1.2 Specifications
2. Transport and Site setup
  - 2.1 Silo preparation for transport
  - 2.2 Transport
3. Charging and Discharging
  - 3.1 Charging through the domed cover aperture in the dishes end
  - 3.2 Charging through the blow-in line or blast socket
  - 3.3 Discharging
  - 3.4 Vibrator option
4. Cleaning and storage
5. Corrective and regular maintenance
6. Spare parts

# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

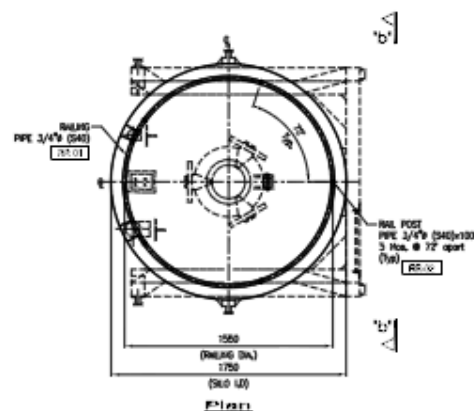
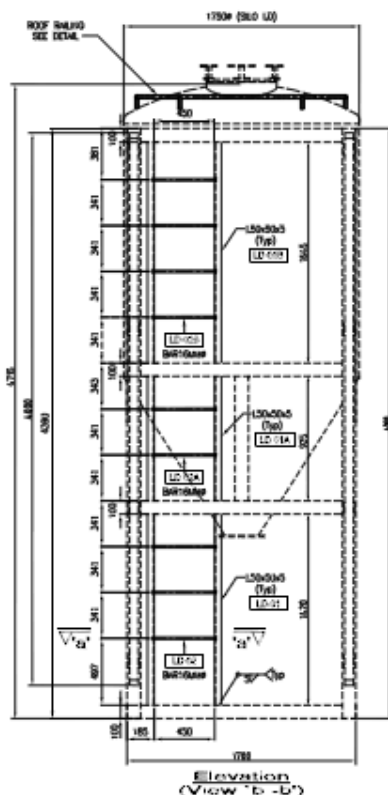
### 1. Description of the silo

#### 1.1 General information

The silos are designed for charging and discharging such dust like and grainy substances as cement, plaster, mortar and strictly use only for AMA Dry-mix material. Customer can't charge any other material inside silo without written permission from AMA.

The silos must never be charged with flammable, liquid or organic substances.

AMA Dry-mix silos can be used with all conventional processing machines. They are designed for operating pressure of 2 bars.



# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 1.2 Specifications

#### Silo model

Volume (m3)	6 m3
Empty weight, approx. (kg)	2000 kg
Max laden weight, approx. (kg)	9200 kg
Diameter (mm)	1750 mm
Discharge height (mm)	1350 mm
Overall height (mm)	4860 mm

#### Connections

Blast socket	2½" with solid B-coupling
Venting line	2" with solid C-coupling or
3" with solid A-coupling	9200 kg
Silo flap valve	DN250
Domed cover	DN450

# AMA DRY-MIX SILO SYSTEM

# OPERATING

# INSTRUCTIONS

# SPEED

# QUALITY

# EFFICIENCY



## AMA DRY-MIX

## 2. Transport and Site setup

Before transport, silo must be examined for damage in the form of a dent, deformation, cracking and corrosion, in particular on the supporting feet, struts, and fittings. When damage is established this must be remedied by authorized personnel before silo is put to any further use.

Before loading or transporting the site responsible person must ensure that:

- All attached parts sit tightly.
  - Silo is depressurized
- There must be no unauthorized personnel inside the danger zone when the silo is loaded, transported and unloaded. Silo may be suspended only with a bucket loader at the provided suspension points.

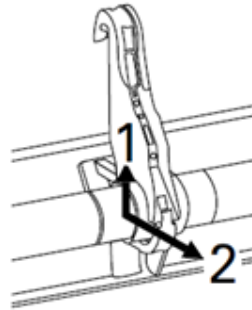
### 2.1 Silo preparation for transport

- Lower the rocker hook (*Picture 1*) on the bucket loader (*Picture 1, 2*).
- Reverse the vehicle up to the silo until the rocker hook is under the silo's rocker bearing.
- Raise the rocker hook (*Picture, 1*) and attach it to the silo' socker bearing (*Picture 1, 2*).
- Slowly advance the bucket loader a little way from the silo until the rocker hook lock has closed.
- Switch ON the auxiliary drive on the bucket loader.
- Pivot back the bucket loader's main arms (rapid traverse): the silo must now be at the center between the main arms.
- On a charged silo – extend the supporting feet on the bucket loader; on irregular terrain extend each of the supporting feet until the bridge plate is vertical.
- Pull the handbrake on the bucket loader.
- Erect the ladder securely at the silo on both sides attach the chains with the safety lugs to the

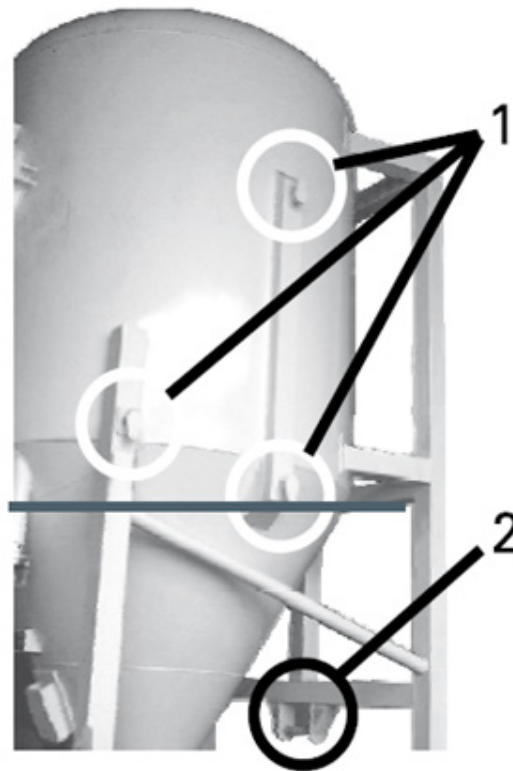
# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX



Picture 1 – Rocker hook



Picture 2 – Receiving points on the transport silo KS

- 1 3 suspending studs (on both sides of the silo)
- 2 silo's rocker bearing

# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

Make sure that:

- The rocker hook is attached to the rocker bearing.
- The rocker hook lock is closed.
- The safety lugs on all six suspending studs are attached securely.
- Pivot the bucket loader's main arms forwards until the silo is inclined at about 45°. In good time open the rocker hook lock pneumatically until the silo's rocker bearing has disengaged completely out of the rocker hook.
  
- Pivot the bucket loader's main arms forwards until the silo lies horizontally on the bridge plate; on the display: the indicator lamp for the main arms in the cab goes out.
- Retract the supporting feet on the bucket loader to the stop; on the display: the indicator lamps for the supporting feet in the cab go out.

### 2.2 Transport

The silo must be secured against slipping and tilting during transport. This involves configuring the front and side vessel stops to the size of the vessel and locking these in position.

Transporting the silo by bucket loader must take into account the load distribution, the maximum laden weight, and the axle loads.

### 2.3 Sitting

Before sitting, the silo must be examined for damage in the form of dents, deformation, cracking, and corrosion, in particular on the supporting feet, struts, and fittings. When damage is established this must be remedied by authorized personnel before the silo is put to any further use.

# AMA DRY-MIX SILO SYSTEM

# OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

There must be no unauthorized personnel inside the danger zone when the silo is loaded, transported, and unloaded.

Observe the stipulations under *Section 2.2 "Transport"*. Use only the provided suspension points. A crane must not be used to deposit the silo!

Never deposit silos on public thoroughfares without permission.

The unloading site must allow the safe arrival and departure of the transporting vehicle. The silo site must be determined explicitly by site management and must be a horizontal, plane, and hardstanding surface of about 2.0 x 2.0 m protected against washout and slipping. A safety distance of no less than one silo height plus one meter must be maintained between the silo and any embankments, pits, and ditches.

The sitting area must be able to bear a foundation pressure of at least 250 kN/m<sup>2</sup>. If necessary, deposit the silo on wooden beams 250–300 cm long, 30 cm wide, and at least 8 cm thick. The beams must not lie parallel to the edge of the embankment.

While the silo is being unloaded the depositing site must be constantly monitored and the unloading procedure aborted whenever necessary. The silo must always be vertical.

- Reverse the bucket loader to the unloading site.
- Raise the rocker hook (*Picture 2, 1*) and attach it to the silo's rocker bearing (*Picture 2, 2*).
- Switch ON the auxiliary drive.
- For a charged silo extend the supporting feet on the bucket loader; on irregular terrain extend each of the supporting feet until the bridge plate is vertical.
- Pull the handbrake on the bucket loader.



# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

Make sure that the safety lugs on the chains are attached securely to all six suspending studs on the silo.

- Pivot the bucket loader's main arms back over the external controller until the silo is firmly on the ground.
- Erect the ladder securely at the silo.
- Detach the chains from the six suspending studs on the silo.
- Open the rocker hook pneumatically.
- Slowly reverse the bucket loader a small way until the rocker bearing has disengaged completely from the rocker hook.

# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 3. Charging and Discharging

Before charging, the silo must be examined for damage in the form of dents, deformation, cracking, and corrosion, in particular on the supporting feet, struts, and fittings. When damage is established this must be remedied by authorized personnel before the silo is put to any further use.

Note the maximum laden weight and max charging quantity for the respective silo.

The silo must be charged only with dustlike or grainy substances like cement, lime, plaster, etc.

The silo must not be charged with flammable, liquid, or organic substances.

The operator may have to consult the specifications for the respective charging material.

A ladder must be used for some work prior to or during charging. Use only suitable, undamaged ladders, and note the safety instructions for handling these.

#### 3.1 Charging through the domed cover aperture in the dishes end

The silo may be charged through the domed cover in the dished end only when the silo is vertical.

The big bag may not be deposited on this safety device, but must be suspended from the crane for the entire emptying process.

There must be no personnel under suspended loads!

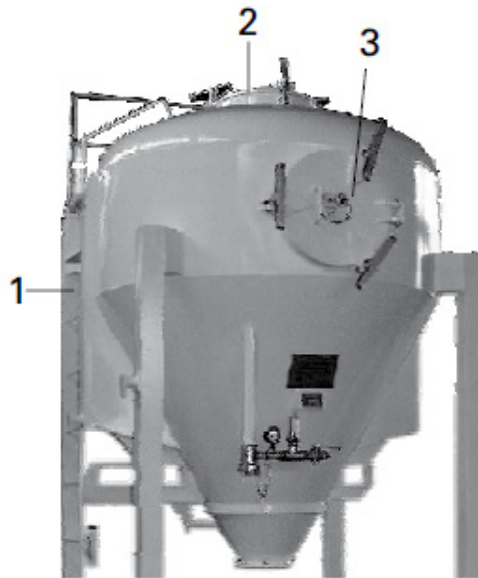
# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

The domed cover can be opened and closed without risk only when the securely mounted ladder (*Picture 3, 1*) and the corresponding railing are used.

- You must attach a safety belt before climbing the ladder.
- Climb to the top of the ladder.
- Unlock the railing, pivot it up to the vertical position, and secure it in this position.
- Open the domed cover in the dished end.
- Place the safety device on the silo dished end over the center of the domed cover.
- Align the big bag over the safety device.
- Insert the emptying nozzle into the aperture in the domed cover, and open the big bag.
- After the charging process clean the domed cover's gasket, and close the domed cover.
- Unlock the railing, return it to its original position, and secure it here.



*Picture 3 – Charging elements 2*

*1 ladder\**

*2 domed cover in the dished end (Option)*

*3 domed cover in the cylinder*

*\* Only in conjunction with the optional domed cover in dishes end*

# AMA DRY-MIX SILO SYSTEM

# OPERATING

# INSTRUCTIONS

## SPEED

## QUALITY

## EFFICIENCY



# AMA DRY-MIX

### 3.2 Charging through the blow-in line or blast socket (pneumatic)

The erect silo can be charged pneumatically with a charging station (blast mode) through a connecting hose. The following must be observed during this process:

It is forbidden to operate the blow-in line (*Picture 4, 1*) and blast socket (*Picture 4, 4*) simultaneously. The venting line (*Picture 4, 2*) must not be used for charging.

The venting line must be open at all times during the charging process. During charging the venting line must not clog, and the max operating pressure of 2 bar must not be exceeded. Charging must be stopped immediately the venting line becomes clogged.

- Close the silo flap valve (*Picture 4, 3*).
- Make sure that there are no contaminants around the connection to the venting line (*Picture 4, 2*).
- Use the coupling to connect the filter to the venting line.
- Remove the blank cover on the blow-in line (*Picture 4, 1*) or alternatively open the throttle flap or ball valve at the blast socket (*Picture 4, 4*) and remove the blank cover.
- Use the coupling to connect the charging hose to the blow-in line (*Picture 4, 1*) or alternatively to the blast socket (*Picture 4, 4*).
- Charge the silo in accordance with the charging station's charging and configuration instructions.
- After charging close the throttle flap or ball valve at the blast socket.
- Remove the charging hose.
- Close the blank cover.
- Remove and dispose properly of the filter at the venting line.

# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX



1 2 3 4

*Picture 4 – Charging elements 1*

*1 blow-in line with Storz coupling*

*2 venting line*

*3 silo flap valve DN250*

*4 blast socket with throttle flap or ball valve and solid coupling*

### 3.3 Discharging

The transport silo KS is discharged through the silo flap valve. As a rule additional devices like mixers, pumps, etc., must be attached to the silo flap valve. The operating instructions for these additional devices must be observed.

### 3.4 Vibrator option

An electric vibrator can be installed to improve the material flow.

This vibrator may be installed only on the provided vibrator plate.

The vibrator must not be switched on when there is only a residual quantity in the silo or when the silo is empty! The vibrator may cause the silo to start moving.

# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 4. Cleaning and storage

#### Cleaning:

- The chain silo must be discharged and cleaned before it is put into storage and before a change of material.
- Clean the vessel cover and gaskets.
- Drain off any residue through the silo flap valve.

Dispose of residue in accordance with the environmental provisions.

#### Storage:

The site on which the silo is deposited must exhibit an adequate load bearing properties ( $\delta = 250 \text{ kN/m}^2$ ).

The silo must be empty and must always be vertical when in storage.

# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 5. Corrective and regular maintenance

AMA Dry-mix accepts no liability for any losses incurred through failure to observe the stipulations for corrective and regular maintenance.

Damage to the pressure vessels must be eliminated before the silo is put to any further use. Repairs and maintenance work must be performed by authorized companies and personnel only. The rules and regulations applying in the Kingdom of Bahrain must be observed.

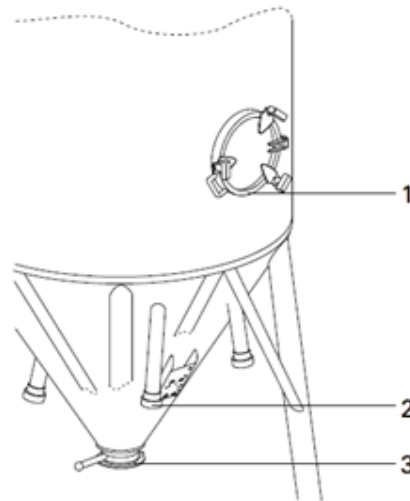
The following work must be performed at regular intervals:

- Lubricate the sites at the silo's flap valve (*Picture 5, 3*).
- Check that the silo's flap valve seals and functions properly.
- Check for any damage to the domed cover's rubber gasket (*Picture 5, 1*) and that it sits properly; also examine the domed cover's rubber gasket in the dished end of the KS3.
- Check for any damage to the aerator (if installed) on the silo's flap valve
- Check that the couplings and blank covers on the blast socket and venting lines function and travel properly.
- Check that the attached parts (vibrator, flap valve, processing machine, etc.) are secure.
- Check that the venting line (*Picture 5, 2*) is clear over its whole length.

# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX



*Picture 5 – Parts subject to maintenance on all silos*

*1 domed cover's gasket*

*2 venting line*

*3 silo flap valve*



# AMA DRY-MIX SILO SYSTEM OPERATING INSTRUCTIONS SPEED QUALITY EFFICIENCY



## AMA DRY-MIX

### 6. Spare parts and accessories

Only approved spare parts and accessories supplied by AMA Dry-Mix Factory may be used. If non-approved spare parts and accessories are used, AMA Dry-Mix Factory will assume no liability for damage caused and will charge whole cost for repair, damage silos, its part or accessories to customer.

The manufacturer will assume no liability for damages caused by unauthorized conversions or modifications to the silo and will charge whole cost for repair, damage silos, its part or accessories to customer.



## AMA DRY-MIX

Ahmed Mansoor Al A'ali Co. BSC®  
Dry-Mix Factory  
P. O. Box: 778, Building 13, Gate 1347  
Road 5225, Ras Zuwyed 952  
Kingdom of Bahrain  
Mobile: +973 36111708  
Phone: +973 17265655 / 56  
Email: amadrymix@al-aali.com





# AMA DRY-MIX SERVICES

## Logistics and Delivery

AMA Dry-Mix with its own fleet of trucks and trailers has the capacity to deliver materials as per customer requirements 24/7. All the vehicles are fitted with cranes for easier and faster offloading on-site. All dispatches are well planned and programmed to suit every customer's needs.

## GPS

All vehicles operated by AMA Dry-Mix are equipped with the latest GPS technology for tracking timely deliveries to customers and work effectiveness. We deliver and focus on our values of customer service.

## Quality Control

At AMA Dry-Mix, we are totally committed to achieving and maintaining the highest standards of quality in every area of operation from receiving the order to the delivery.



## Application

---

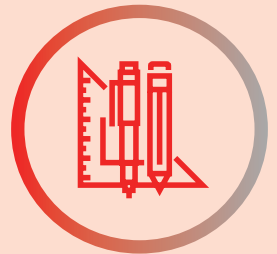
AMA Dry-Mix Factory offers the most modern factory mixed plaster application system in Bahrain with the latest German M-Tec DUOMIX application machines. AMA Dry-Mix spray application offers:

- Lowest manhours (1 manhour/m<sup>2</sup>)
- Minimum wastage
- A cost effective solution (yield, time, and manpower)
- Time effective application with the ability to complete 210m<sup>2</sup> in 3 days with 7 workers (5 masons and 2 helpers).

## Training

---

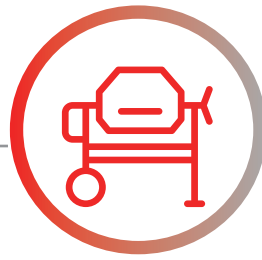
We provide training workshops in surface prep, mixing, and applying AMA Dry-mix plasters. These are hands-on workshops, taught at our Training Centre in Askar. Please contact us for further information.



# AMA DRY-MIX

## IN-HOUSE TESTING LABORATORY

To ensure that the AMA Dry-Mix continuously supplies quality products, we have an in-house state of the art and fully equipped laboratory to carry out testing of finished products. We conduct tests as per the specifications of Bahrain's Ministry of Works and Ministry of Housing. Additionally, we can conduct tests to recheck the quality of any product upon the request of the customer.



### Stage 1

(Raw Materials and supplier samples):

1. Determination of bulk density of Raw Material.
2. Determination of particle size distribution (by sieve analysis).
3. Determination of Humidity of Raw Materials.
4. Determination of consistence of fresh cement (by flow table).

### Stage 2

Production Test (First bag before continue production):

1. Determination of bulk density of dry-mix product
2. Determination of particle size distribution (by sieve analysis)





### Stage 3

Actual production (quantity as required for one day) fresh mortar

1. Determination of bulk density of dry-mix product.
2. Determination of particle size distribution (by sieve analysis)
3. Determination of spread measure.
4. Determination of bulk density of fresh mortar.
5. Determination of air content of fresh mortar.
6. Determination of making 3 moulds of the best result.



### Stage 4

Determination of flexural and compressive strength of hardened mortar ( 7days and 28days).









AMA DRY-MIX

# REFERENCE PROJECTS

*More reference projects available on request*



**Project Name:** Diyar Al Muharraq  
**Client:** Ministry of Housing Bahrain  
**Consultant:** Mott Macdonald  
**Contractor:** AMA Construction  
**Applicator of Dry Mix:** AMA Dry-Mix  
**Total No of Villas Completed:** 65 (68,000 m<sup>2</sup>)



**Project Name:** Diraz Villas  
**Client:** Gulf Eagle Group  
**Consultant:**  
**Contractor:** Gulf Eagle Group  
**Applicator of Dry Mix:** AMA Dry-Mix  
**Total No of Villas Completed:** 2 (1,576 m<sup>2</sup>)

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## ADDITIONAL PROJECTS

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**Project Name:** Riffa Residence  
**Client:** Private  
**Consultant:** ARCHI Type  
**Contractor:** KG Construction  
**Applicator of Dry Mix:** AMA Dry-Mix  
**m<sup>2</sup> Completed:** 4,500 m<sup>2</sup>

**Project Name:** Ahmad Shaikh A. Rahman Al Mehza Mosque  
**Client:** Ahmad Shaikh A. Rahman Al Mehza  
**Consultant:** N/A  
**Contractor:** TYMA for Building Materials  
**Applicator of Dry Mix:** AMA Dry-Mix  
**m<sup>2</sup>:** 2,300 m<sup>2</sup>

AMA DRY-MIX

# CERTIFICATION

TÜV NORD

## CERTIFICATE

Management system as per  
ISO 9001 : 2015

In accordance with TÜV Middle East procedures, it is hereby certified that

**AMA Dry - Mix**  
**(Division of Ahmed Mansoor Al Aali Co. BSC)**  
Road 5225, Block 952, Building 1347  
Ras Zuwayed / Askar  
Kingdom of Bahrain



applies a management system in line with the above standard for the following scope

**EA: 16**

**Manufacture of non-metallic mineral products (Cement Dry Mix products)**

Certificate Registration No. DAC 03 01016  
Audit Report No. 1000 3773

Valid from 26-06-2019  
Valid until 25-06-2022

Certification Body

Dubai, 26-06-2019

This certification was conducted in accordance with the TÜV Middle East auditing and certification procedures and is subject to regular surveillance audits.

TÜV Middle East No. 202, Dubai Real Estate Center, Al Mina Road, Satwa, P. O. Box 79123, Dubai, UAE

[www.tuvms.com](http://www.tuvms.com)



# AMA DRY-MIX APPROVALS

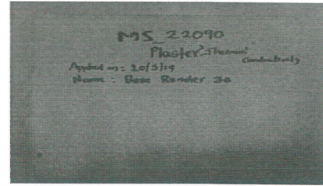


ماتريال لاب  
Material Lab

## REPORT ON THERMAL CONDUCTIVITY OF BASE RENDER 30, BR30

Client : AMA DRY MORTAR FACTORY  
Address : Bahrain  
Consultant : NP  
Contractor : NP  
Project Name : Quality Control Testing  
Project No. : NP  
Location : NP  
Sample Description : Base Render 30, BR30  
Test specimen size(LxWxT) : 301x300x53  
Sample Reference Number : MS 22090  
Source : NP  
Sampling Method : Random  
Sampling Date : 23/4/2019  
Sampled by : Contractor  
Orientation of Specimen : Horizontal  
Thickness of Test Specimen : 53 mm  
Ambient Temperature : 23 ± 2°C  
Relative Humidity : 50 ± 5 %

Lab Ref No. : CQ-1905/700  
Lab. Project No : P-3603  
Lab. Report No : CR-1905/1322  
Sample Size (No.) : NP  
Calibration used : 1450b  
Set Point Upper Plate : 30.00°C  
Set Point Lower Plate : 40.00°C  
Mean Temperature : 35.00°C  
Sample Brought by : Contractor  
Date Sample Received : 24/04/2019  
Date test Started : 24/04/2019  
Date Test Completed : 26/04/2019  
Report Date : 30/04/2019  
Tested by : IKN



### Test Data

S.No	TEST NAME	UNIT	RESULT
1	Average Thermal Conductivity	W/mK	0.4397
2	Density	Kg/m <sup>3</sup>	1390

Test method : ASTM C 518-15  
Remarks : Test Specimen Density was calculated in complete dry condition



*Sohail Zafar*  
Authorized Signatory



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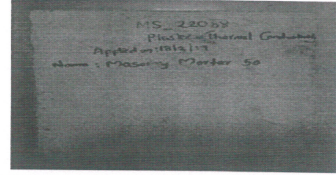


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## REPORT ON THERMAL CONDUCTIVITY OF MASONRY MORTAR 50, MM50

Client	: AMA DRY MORTAR FACTORY	Lab Ref No. :	CQ-1905/699
Address	: Bahrain	Lab. Project No :	P-3603
Consultant	: NP	Lab. Report No :	CR-1905/1321
Contractor	: NP	Sample Size (No.) :	NP
Project Name	: Quality Control Testing	Calibration used :	1450b
Project No.	: NP	Set Point Upper Plate :	30.00°C
Location	: NP	Set Point Lower Plate :	40.00°C
Sample Description	: Masonry Mortar 50, MM50	Mean Temperature :	35.00°C
Test specimen size(LxWxT)	: 301x301x54	Sample Brought by :	Contractor
Sample Reference Number	: MS 22088	Date Sample Received :	24/04/2019
Source	: NP	Date test Started :	24/04/2019
Sampling Method	: Random	Date Test Completed :	25/04/2019
Sampling Date	: 23/4/2019	Report Date :	30/04/2019
Sampled by	: Contractor	Tested by :	IKN
Orientation of Specimen	: Horizontal		
Thickness of Test Specimen	: 54 mm		
Ambient Temperature	: 23 ± 2°C		
Relative Humidity	: 50 ± 5 %		



### Test Data

S.No	TEST NAME	UNIT	RESULT
1	Average Thermal Conductivity	W/mK	1.0108
2	Density	Kg/m <sup>3</sup>	1610

Test method : ASTM C 518-15  
Remarks : Test Specimen Density was calculated in complete dry condition



*Sohail*  
Authorized Signatory



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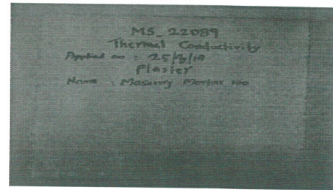
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# AMA DRY-MIX APPROVALS



## REPORT ON THERMAL CONDUCTIVITY OF MASONRY MORTAR 100, MM100

Client	: AMA DRY MORTAR FACTORY	Lab Ref No. :	CQ-1905/698
Address	: Bahrain	Lab. Project No :	P-3603
Consultant	: NP	Lab. Report No :	CR-1905/1320
Contractor	: NP	Sample Size (No.) :	NP
Project Name	: Quality Control Testing	Calibration used :	1450b
Project No.	: NP	Set Point Upper Plate :	30.00°C
Location	: NP	Set Point Lower Plate :	40.00°C
Sample Description	: Masonry Mortar 100, MM100	Mean Temperature :	35.00°C
Test specimen size(LxWxT)	: 302x301x53	Sample Brought by :	Contractor
Sample Reference Number	: MS 22089	Date Sample Received :	24/04/2019
Source	: NP	Date test Started :	24/04/2019
Sampling Method	: Random	Date Test Completed :	27/04/2019
Sampling Date	: 23/4/2019	Report Date :	30/04/2019
Sampled by	: Contractor	Tested by :	IKN
Orientation of Specimen	: Horizontal		
Thickness of Test Specimen	: 53 mm		
Ambient Temperature	: 23 ± 2°C		
Relative Humidity	: 50 ± 5 %		



### Test Data

S.No	TEST NAME	UNIT	RESULT
1	Average Thermal Conductivity	W/mK	1.0213
2	Density	Kg/m <sup>3</sup>	1660

Test method : ASTM C 518-15  
Remarks : Test Specimen Density was calculated in complete dry condition



  
Authorized Signatory



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[Mail id :- abbas.kanisan@wacker.com](mailto:abbas.kanisan@wacker.com)

## TEST REPORT

Sample **Base Render 30, BR30**  
Customer

TCD- MS\_22090

**AMA DRY MORTAR FACTORY,  
BAHRAIN**

Date **05 May 2019**  
Tested by **Dubai Technical Center**

### 1 INTRODUCTION

The main scope of the project was to test sample **Base Render 30** for **AMA DRY MORTAR FACTORY, BAHRAIN** for the following tests.

- a) Compressive Strength & Flexural Strength as per EN 1015-11
- b) Tensile Adhesion Strength as per EN 1015-12
- c) Water Absorption Coefficient as per EN 1015-18
- d) Water Vapour Permeability as per EN 1015-19
- e) Bulk Density of Fresh Mortar as per EN 1015-2
- f) Density of Dry Mortar as per EN 1015-10

- Samples provided by the customer and received in good condition.
- Test Conditions:  
**Temperature: 23 ± 2 °C, Relative Humidity: 50 ± 5%**
- Storage Conditions  
**Temperature: 23 ± 2 °C, Relative Humidity: 50 ± 5%**
- Water demand is approx. 30%
- Test Date: 17.04.2019

# APPROVALS

## 2 TEST RESULTS

### 2.1 FLEXURAL AND COMPRESSIVE STRENGTH

Flexural Strength			Compressive Strength		
kN	N/mm <sup>2</sup>		kN	N/mm <sup>2</sup>	
0.6985	1.63		1	5.4	3.4
0.6794	1.59		2	5.6	3.5
0.6629	1.55		3	5.4	3.4
Mean Value (N/mm <sup>2</sup> )	1.6		4	5.6	3.5
			5	5.1	3.2
			6	5.3	3.3
			Mean Value		3.4

### 2.2 TENSILE ADHESION STRENGTH (BOND STRENGTH)

Storage Condition	Tensile Strength (N/mm <sup>2</sup> )	Mean (N/mm <sup>2</sup> )
Standard Condition	0.14	0.16
	0.16	
	0.17	
	0.17	
	0.18	

### TABLE 2.3 WATER ABSORPTION

The penetrated water to the surface after 24 hours immersion is **1.55 (Kg/m<sup>2</sup>.√h)**.  
 The end value is **1.55 (Kg/m<sup>2</sup>.√h)**. See detailed results and graph in Annex I & II.

### TABLE 2.4 WATER VAPOR PERMEABILITY

Water Vapor Permeability	Mean Value	S <sub>d</sub> (m)	μ
		0.093	4.650



TABLE 2.5 BULK DENSITY OF FRESH MORTAR

Formulation	
Gauging water [ml] on 100g dry-mix	30
Fresh mortar density (Kg/m <sup>3</sup> )	1531

TABLE 2.6 DRY MORTAR DENSITY (HARDENED MORTAR DENSITY)

Formulation	
Gauging water [ml] on 100g dry-mix	30
Dry mortar density (Kg/m <sup>3</sup> ) after 28 days in standard condition	1395.2

### 3 CONCLUSION

The norm: EN 998-1: 2010

Product : BR 30

Type : GP

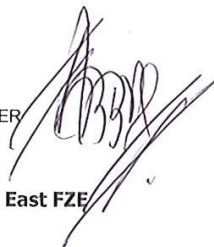
Categories: CS II

Test parameter	Category	Type	AMA Result	Remarks
Compressive strength	CS II (1.5 -5 N/mm <sup>2</sup> )	GP	3.4 N/mm <sup>2</sup>	Passed
Water absorption	W0 No require- ment	GP	1.55 Kg/(m <sup>2</sup> .h)	Passed

- The product is passed the minimum requirements of category of CS II according to EN 998-1:2010 standard.

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# APPROVALS

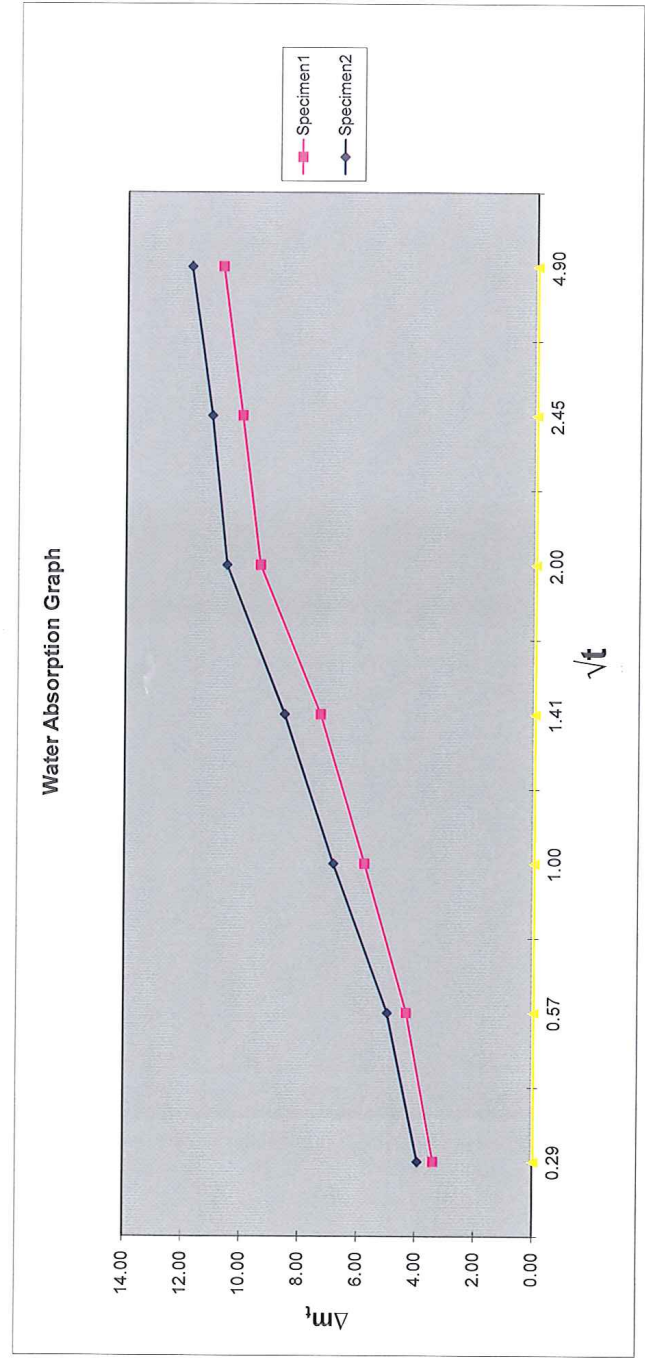
**WACKER** POLYMERS

Annex I

Sl no.	Diameter (m)	Wt of Dry specimen (kg) m <sub>0</sub>	Water Absorption after 5 min m <sub>1</sub> (kg)	$\Delta m_1=(m_1-m_0)/Area$	Water Absorption after 20 min m <sub>2</sub> (kg)	$\Delta m_2=(m_2-m_0)/Area$	Water Absorption after 60 min m <sub>3</sub> (kg)	$\Delta m_3=(m_3-m_0)/Area$	Water Absorption after 120 min m <sub>4</sub> (kg)	$\Delta m_4=(m_4-m_0)/Area$	Water Absorption after 240 min m <sub>5</sub> (kg)	$\Delta m_5=(m_5-m_0)/Area$	Water Absorption after 360 min m <sub>6</sub> (kg)	$\Delta m_6=(m_6-m_0)/Area$	Water Absorption after 24 hrs m <sub>7</sub> (kg)	$\Delta m_7=(m_7-m_0)/Area$	$A_w=(\Delta m_7-\Delta m_6)/A_s$	Area Spec mer (m <sup>2</sup> )
1	0.215	0.915	1.039	3.416	1.073	4.352	1.126	5.812	1.181	7.327	1.257	9.420	1.280	10.054	1.305	10.742	1.50	0.0
2	0.214	0.941	1.083	3.937	1.121	4.993	1.188	6.856	1.249	8.552	1.321	10.554	1.340	11.082	1.366	11.805	1.61	0.0
																Mean	1.55	

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## Annex II



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# AMA DRY-MIX APPROVALS



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TCD- MS\_22088

## TEST REPORT

Sample **Masonry Mortar 50, MM50**  
Customer

**AMA DRY MORTAR FACTORY,  
BAHRAIN**

Date **05 May 2019**  
Tested by **Dubai Technical Center**

### 1 INTRODUCTION

The main scope of the project was to test sample **Masonry Mortar 50** for **AMA DRY MORTAR FACTORY, BAHRAIN** for the following tests.

- a) Workable Life as per EN 1015-09
- b) Shear Strength as per ANSI 118.4
- c) Water Absorption Coefficient as Per EN 1015-18
- d) Water Vapour Permeability as per EN 1015-19
- e) Bulk Density of Fresh Mortar as Per EN 1015-2
- f) Density of Dry Mortar as per EN 1015-10
- g) Compressive Strength & Flexural Strength as Per EN 1015-11

- Samples provided by the customer and received in good condition.
- Test Conditions:  
**Temperature: 23 ± 2 °C, Relative Humidity: 50 ± 5%**
- Storage Conditions  
**Temperature: 23 ± 2 °C, Relative Humidity: 50 ± 5%**
- Water demand is approx. 21%
- Test Date: 15.04.2019

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## 2 TEST RESULTS

### 2.1 WORKABLE LIFE

Formulation	
Gauging water [ml] on 100g dry-mix	21
Workability	Good
Workable Time (Pot life)	210-240 Minutes

TABLE 2.2: SHEAR STRENGTH

Shear Strength [psi]	28 days Standard Condition	69.62
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TABLE 2.3 WATER ABSORPTION

The penetrated water to the surface after 24 hours immersion is 1.75

The end value is 1.75 (Kg/m<sup>2</sup>.√h). See detailed results and graph in Annex I & II

TABLE 2.4 WATER VAPOR PERMEABILITY

Water Vapor Permeability	Mean Value	S <sub>d</sub> (m)	μ
		0.120	5.986

TABLE 2.5 BULK DENSITY OF FRESH MORTAR

Formulation	
Gauging water [ml] on 100g dry-mix	21
Fresh mortar density (Kg/m <sup>3</sup> )	1763

TABLE 2.6 DRY MORTAR DENSITY (HARDENED MORTAR DENSITY)

Formulation	
Gauging water [ml] on 100g dry-mix	21
Dry mortar density (Kg/m <sup>3</sup> ) after 28 days in standard condition	1603

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# AMA DRY-MIX APPROVALS

**WACKER** **POLYMERS** Page 3 of 5

## 2.7 FLEXURAL AND COMPRESSIVE STRENGTH

Flexural Strength			Compressive Strength	
kN	N/mm <sup>2</sup>		kN	N/mm <sup>2</sup>
0.7532	1.77	1	8.9	5.6
0.7505	1.76	2	8.9	5.6
0.7196	1.69	3	8.7	5.5
<b>Mean Value</b>	<b>1.7</b>	4	8.9	5.6
		5	8.7	5.5
		6	8.7	5.5
			<b>Mean Value</b>	<b>5.6</b>

## 3 CONCLUSION

The norm: EN 998-2: 2010

Product : MM50

Type : Masonry Mortar

Categories: M5

Test parameter	Category	Type	AMA Result	Remarks
Compressive strength	M5 ( 5 -10 N/mm <sup>2</sup> )	Masonry Mortar	5.6 N/mm <sup>2</sup>	Passed
Water absorption	W0 No requirement	Masonry Mortar	1.75Kg/(m <sup>2</sup> .h)	Passed

- The product is passed the minimum requirements of masonry mortar category of M5 according to EN 998-2:2010 standard.

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## WACKER POLYMERS

### Annex I

Si no	Diameter (m)	Wt of Dry specimen (kg) m <sub>0</sub>	Water Absorption after 5 min m <sub>1</sub> (kg)	Water Absorption after 20 min m <sub>2</sub> (kg)	Water Absorption after 60 min m <sub>3</sub> (kg)	Water Absorption after 120 min m <sub>4</sub> (kg)	Water Absorption after 240 min m <sub>5</sub> (kg)	Water Absorption after 360 min m <sub>6</sub> (kg)	Water Absorption after 24 hrs m <sub>7</sub> (kg)	$\Delta m_1=(m_1-m_0)/Area$	$\Delta m_2=(m_2-m_0)/Area$	$\Delta m_3=(m_3-m_0)/Area$	$\Delta m_4=(m_4-m_0)/Area$	$\Delta m_5=(m_5-m_0)/Area$	$\Delta m_6=(m_6-m_0)/Area$	$\Delta m_7=(m_7-m_0)/Area$	$A_w=(m_7-m_0)/\sqrt{t}$	Area of Specimen (m <sup>2</sup> )
1	0.21	1.083	1.167	1.196	1.249	1.307	1.391	1.433	1.481	2.36	3.17	4.66	8.65	9.83	11.170	1.80	0.036	
2	0.21	0.989	1.093	1.126	1.189	1.239	1.318	1.318	1.386	2.94	3.87	5.66	9.31	9.32	11.258	1.70	0.035	
																Mean	1.75	

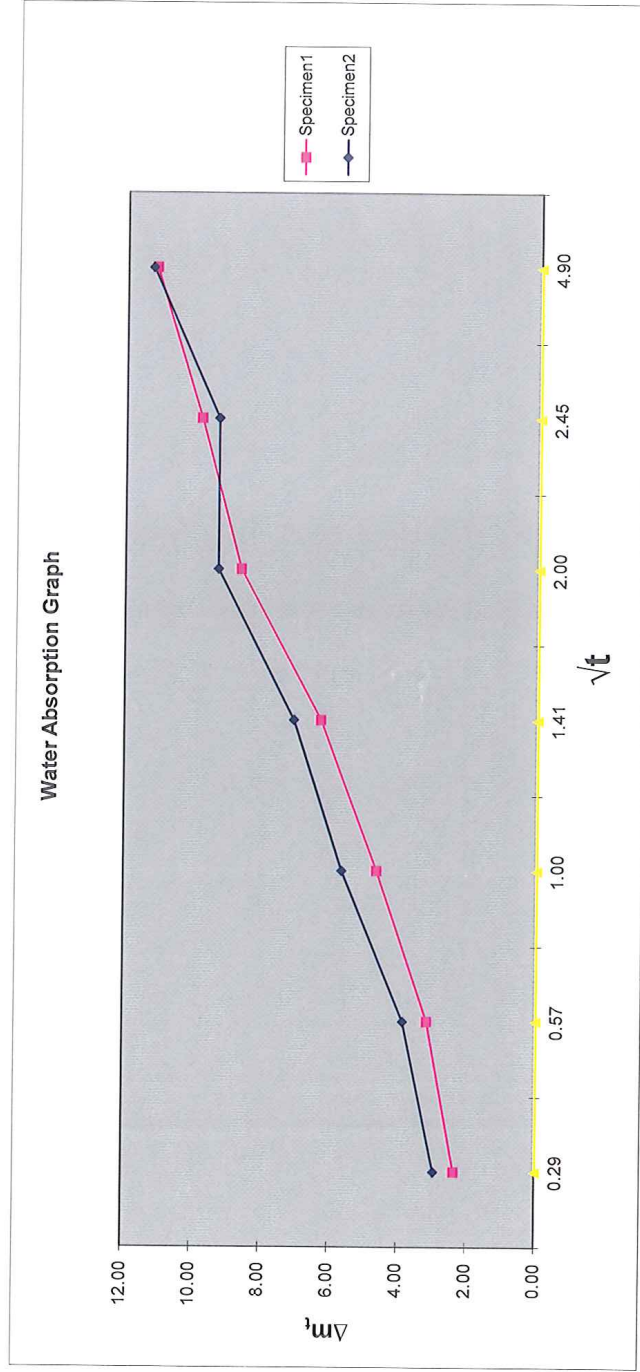
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# APPROVALS

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## Annex II

Water Absorption Graph



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## TEST REPORT

Sample **Masonry Mortar 100, MM100**  
Customer

TCD- MS\_22089

**AMA DRY MORTAR FACTORY,  
BAHRAIN**

Date **05 May 2019**  
Tested by **Dubai Technical Center**

### 1 INTRODUCTION

The main scope of the project was to test sample **Masonry Mortar 100** for **AMA DRY MORTAR FACTORY, BAHRAIN** for the following tests.

- a) Workable Life as per EN 1015-09
  - b) Shear Strength as per ANSI 118.4
  - c) Water Absorption Coefficient as per EN 1015-18
  - d) Water Vapour Permeability as per EN 1015-19
  - e) Bulk Density of Fresh Mortar as per EN 1015-2
  - f) Density of Dry Mortar as per EN 1015-10
  - g) Compressive Strength & Flexural Strength as per EN 1015-11
- Samples provided by the customer and received in good condition.
  - Test Conditions:  
**Temperature: 23 ± 2 °C, Relative Humidity: 50 ± 5%**
  - Storage Conditions  
**Temperature: 23 ± 2 °C, Relative Humidity: 50 ± 5%**
  - Water demand is approx. 21%
  - Test Date: 15.04.2019

# AMA DRY-MIX APPROVALS

## 2 TEST RESULTS

### 2.1 WORKABLE LIFE

Formulation	
Gauging water [ml] on 100g dry-mix	21
Workability	Good
Workable Time (Pot life)	210-225 Minutes

TABLE 2.2: SHEAR STRENGTH

Shear Strength [psi]	28 days Standard Condition	69.62
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TABLE 2.3 WATER ABSORPTION

The penetrated water to the surface after 24 hours immersion is  $1.76 \text{ (Kg/m}^2 \cdot \sqrt{h}\text{)}$ .

The end value is  $1.76 \text{ (Kg/m}^2 \cdot \sqrt{h}\text{)}$ . See detailed results and graph in Annex I & II.

TABLE 2.4 WATER VAPOR PERMEABILITY

Water Vapor Permeability	Mean Value	S <sub>d</sub> (m)	μ
		0.118	5.895

TABLE 2.5 BULK DENSITY OF FRESH MORTAR

Formulation	
Gauging water [ml] on 100g dry-mix	21
Fresh mortar density (Kg/m <sup>3</sup> )	1813

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TABLE 2.6 DRY MORTAR DENSITY (HARDENED MORTAR DENSITY)

Formulation	
Gauging water [ml] on 100g dry-mix	21
Dry mortar density (Kg/m <sup>3</sup> ) after 28 days in standard condition	1648

## 2.7 FLEXURAL AND COMPRESSIVE STRENGTH

Flexural Strength		Compressive Strength	
kN	N/mm <sup>2</sup>	kN	N/mm <sup>2</sup>
1.05	2.46	1	16.5
1.13	2.64	2	17.1
1.09	2.56	3	16.8
Mean Value	2.6	4	17.1
		5	16.8
		6	16.8
		Mean Value	10.6

## 3 CONCLUSION

The norm: EN 998-2: 2010  
 Product : MM100  
 Type : Masonry Mortar  
 Categories: M10

Test parameter	Category	Type	AMA Result	Remarks
Compressive strength	M10 (10-15 N/mm <sup>2</sup> )	Masonry Mortar	10.6 N/mm <sup>2</sup>	Passed
Water absorption	W0 No requirement	Masonry Mortar	1.75Kg/(m <sup>2</sup> .h)	Passed

- The product is passed the minimum requirements of masonry mortar category of M10 according to EN 998-2:2010 standard.

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# APPROVALS



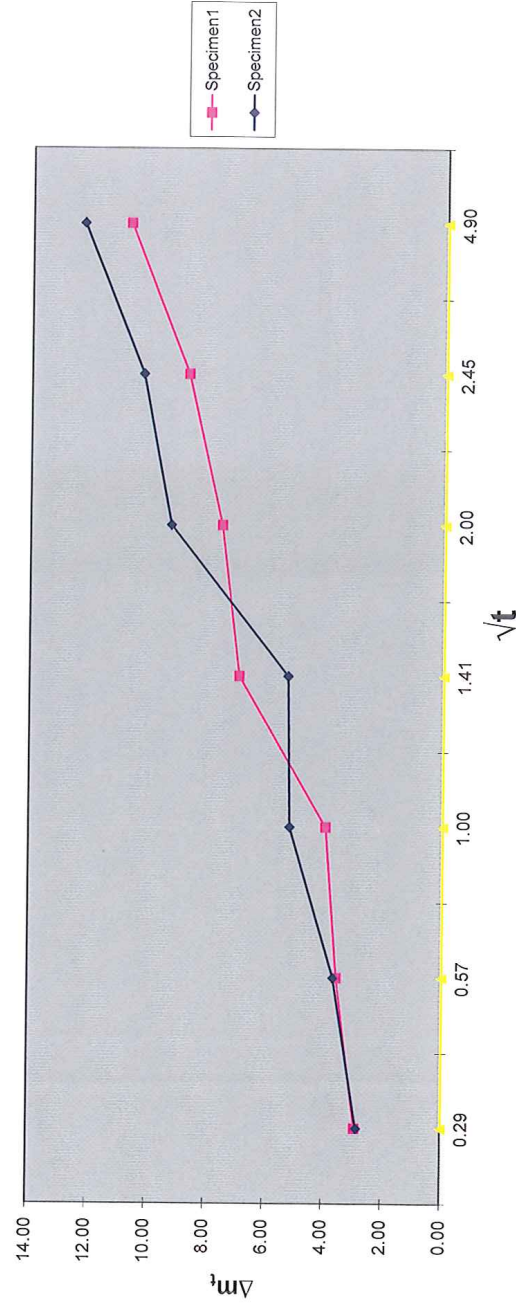
## Annex I

Sl no	Diameter (m)	Wt of Dry specimen (kg) m <sub>0</sub>	Water Absorption after 5 min m <sub>1</sub> (kg)	Water Absorption after 20 min m <sub>2</sub> (kg)	Water Absorption after 60 min m <sub>3</sub> (kg)	Water Absorption after 120 min m <sub>4</sub> (kg)	Water Absorption after 240 min m <sub>5</sub> (kg)	Water Absorption after 360 min m <sub>6</sub> (kg)	Water Absorption after 24 hrs m <sub>7</sub> (kg)	$\Delta m_1 = (m_1 - m_0) / \text{Area}$	$\Delta m_2 = (m_2 - m_0) / \text{Area}$	$\Delta m_3 = (m_3 - m_0) / \text{Area}$	$\Delta m_4 = (m_4 - m_0) / \text{Area}$	$\Delta m_5 = (m_5 - m_0) / \text{Area}$	$\Delta m_6 = (m_6 - m_0) / \text{Area}$	$\Delta m_7 = (m_7 - m_0) / \text{Area}$	$A_w = (\Delta m_7 - \Delta m_0) / \sqrt{t}$	Area Specimer (m <sup>2</sup> )
1	0.214	1.064	1.168	1.192	1.206	1.313	1.335	1.377	1.449	2.91	3.56	3.95	6.93	7.54	8.710	10.71	1.59	0.0
2	0.211	1.074	1.174	1.202	1.255	1.258	1.398	1.432	1.503	2.84	3.66	5.17	5.26	9.26	10.24	12.27	1.92	0.0
																Mean	1.76	

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## Annex II

Water Absorption Graph



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