



Aussieblock

RECONSTITUTED LIMESTONE | SAN ANGELO, TEXAS

BLOCKS AND MORTAR SEALING PROGRAM

Residential & Commercial Structures

Integral repellency, mortar requirements, sealer selection,
application, quality control, and maintenance schedules

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1. Purpose & Scope

This program defines the standard moisture-protection requirements for Aussieblock reconstituted limestone block (hollow-core and solid series) installed in residential and commercial structures. Protection is delivered as a **three-layer system**: (1) integral water repellency manufactured into every unit with MasterPel 100 (Section 3); (2) matching integral repellency in the mortar (Section 4); and (3) surface-applied sealer systems selected by exposure (Sections 5–6). The bulletin also covers surface preparation, application procedure, quality control, and long-term maintenance/resealing schedules for above-grade walls, parapets and copings, retaining walls, below-grade and backfilled construction, planters, and wet-area structures. Pool interior finishes under Aussieblock Aquatics use the dedicated coating system referenced in Section 5 and are otherwise outside the scope of this bulletin.

2. Moisture Protection Philosophy

Reconstituted limestone block is a porous, breathable masonry unit. Aussieblock units are batched with an integral water repellent (MasterPel 100, Section 3), which substantially reduces absorption and efflorescence in the unit itself. Integral repellency alone, however, does not protect the completed wall: mortar joints, cut faces, copings, and severe exposures remain vulnerable. Left without the complete system, walls are exposed to the following mechanisms — all cosmetic and durability risks, and all preventable:

- **Wind-driven rain penetration** — moisture migration through joints and face shells into cores and interior finishes, particularly on west- and north-facing commercial elevations.
- **Efflorescence** — soluble salts carried to the surface by evaporating moisture, leaving white deposits that recur until the moisture path is closed. Most efflorescence on integrally-repellent masonry originates at **untreated mortar joints**.
- **Staining and dirt pickup** — open pores hold atmospheric dust, red West Texas soil splash, irrigation overspray minerals, and organic staining at grade.
- **Freeze-thaw spalling** — infrequent but real in San Angelo winters; saturated block subjected to hard freezes can spall at faces and coping edges.
- **Salt attack** — chlorides and sulfates in irrigation water, pool splash zones, and de-icing products crystallize in pores and break down the cement matrix.
- **Surface dusting** — soft or lightly cured faces can chalk under abrasion; a consolidant addresses this before water repellent application.

The governing principle of this program: **keep the block breathable**. Every layer of the system — integral repellent, treated mortar, and surface sealer — is vapor-permeable. Trapped moisture behind a non-breathable film is the leading cause of coating failure, blistering, and accelerated efflorescence on masonry.

NORMAL APPEARANCE — WET COLOR CHANGE: Reconstituted limestone blocks **can and will change color, darkening when wet or during rain. This is normal** and is a characteristic of all natural and reconstituted stone masonry — including sealed walls, since the breathable system intentionally allows surface moisture interaction. The wall returns to its original color as it dries. Temporary wet darkening is **not** a defect or a sealer failure. Uneven drying between blocks and joints in the first months after construction is likewise normal while residual construction moisture works out of the wall.

3. Integral Water Repellency — MasterPel 100

All Aussieblock reconstituted limestone units are manufactured with **MasterPel 100** (Master Builders Solutions), an integral water repellent and efflorescence-control admixture batched into the mix at the plant. It works throughout the full thickness of



the unit — not just at the surface — and cannot wear off, be skipped, or be damaged by handling.

3.1 What the integral repellent provides

- Significantly reduced water absorption and capillary wicking through the body of the unit, including at cut, split, and rasped faces.
- Primary efflorescence control — soluble salt migration within the unit is suppressed at the source.
- Reduced staining and dirt pickup on the block face; improved performance of the surface-applied Class A repellent (less material demand, more uniform penetration).
- Protection is permanent for the life of the unit.

3.2 What it does not replace

- **Mortar joints** — site-mixed mortar contains no repellent unless MasterPel is added at the mixer (mandatory per Section 4). In an integrally-repellent wall, untreated joints become the dominant leak and efflorescence path; exposed-wall joints additionally receive the brushed urethane/acrylic joint coating.
- **Surface sealing in exposed service** — wind-driven rain resistance, splash zones, and copings still require the Class A surface repellent per the Section 6 matrix.
- **Flashing, weeps, copings, and movement joints** — integral repellency is not a substitute for correct water-management detailing.

Compatibility note: MasterPel 100 at production dosage does not interfere with penetrating silane/siloxane sealers (Class A) or silicate consolidants (Class B). For bonded coatings — Class C cementitious waterproofing (Basecrete Xtreme) and Class E pool coatings — confirm adhesion with a small test area before full application.

4. Mortar Requirements

Mortar joints represent roughly 10–20% of the exposed wall face and are the weakest moisture link in single-wythe masonry. Because the units are integrally repellent, **the mortar must be treated to match** — otherwise every joint is an untreated capillary strip running through an otherwise protected wall.

- **MasterPel is added to all mortar — no exceptions on exterior work.** The same MasterPel integral water repellent family used in the units is dosed into every batch of laying and pointing mortar per the current MBS data sheet for the mortar type (MasterPel 240 is the standard jobsite companion to the MasterPel 100 in the block). One dose per bag of masonry/mortar cement at the mixer; do not split doses. An approved equal may be substituted only with Aussieblock's written acceptance.
- **Mortar type:** Type S for structural, retaining, and below-grade work; Type N acceptable for above-grade veneer and fence walls unless the project specification says otherwise.
- **Workmanship:** full head and bed joints on face shells; tool joints **concave** (or V-joint) when thumbprint hard — raked, flush-cut, and struck joints are not permitted on exterior exposure because they leave an unconsolidated ledge that collects water.
- **Batching discipline:** consistent water content between batches (color consistency), no retempering after initial set, discard mortar past board life (about 2 hrs at 90°F+).
- **Repointing / repairs:** repair mortar for joint work also receives the integral repellent dose before any resealing under Section 10.
- **Joint coating (all exposed walls):** once joints are cured, **brush-apply a clear urethane or acrylic coating — low gloss or satin finish — to every mortar joint** — head and bed joints, both faces on fence walls. The brushed coating seals the joint surface and the block–mortar hairline interface. It is applied **before** the wall-wide penetrating sealer (a



coating will not bond over a silane-treated surface).

- **Penetrating sealer over everything:** the Class A flood coat in Section 8 is then applied to **all wall sections — block and joints alike — with particular focus on the mortar joints**, bridging the block–mortar interface where most wind-driven rain enters. Applied only after joints are cured, tooled, and coated.

5. Approved Sealer Systems

Five system classes are approved under this program. Class A is the default specification for all exposed block. Classes B–E are supplemental systems for specific exposures.

Class	System	Chemistry / Products	Where Used
A	Penetrating water repellent (<i>default spec</i>)	Silane/siloxane. 40% silane (e.g., MasterProtect H 400) for standard exposure; 100% silane (MasterProtect H 1000) for severe exposure, copings, and commercial facades. Water-based siloxane blends acceptable for residential where VOC or odor is a concern.	All exposed above-grade block, residential and commercial. Invisible, breathable, penetrates 1/8"–1/4".
B	Silicate consolidant / densifier	Lithium or potassium silicate penetrating consolidant, applied before Class A where needed.	Soft, dusting, or chalking faces; high-traffic wainscots; salvaged/weathered block being re-sealed.
C	Cementitious waterproofing	Polymer-modified cementitious membrane — Basecrete Xtreme (Aussieblock standard).	Positive-side waterproofing: planters, water features, below-grade walls (interior of cores or exterior face), wet rooms, splash zones.
D	Dampproofing membrane	Bituminous dampproofing or dimpled HDPE drainage sheet over parged face.	Backfilled face of retaining walls and basement walls, always combined with drainage aggregate and perforated pipe per the Aussieblock Retaining Wall Guide.
E	Polymer finish coating	Vortex Coatings system (Aussieblock is an authorized applicator).	Pool interiors and immersed structures (Aussieblock Aquatics); decorative high-build finishes where a colored waterproof surface is specified.

Film-forming sealers are not approved for general wall areas, and where any film-former is used on small decorative elements it must be **clear, low gloss or satin** — no high-gloss or pigmented films on Aussieblock masonry. Apply only where a Class A repellent is excluded from that area — never over it.

6. Selection Matrix by Application

Application / Exposure	System	Coats	Reseal Cycle
Residential exterior walls, above grade	Class A — 40% silane or siloxane blend	2 (wet-on-wet)	7–10 yrs
Commercial facades & storefronts	Class A — 100% silane	2 (wet-on-wet)	5–7 yrs
Parapets, copings, sills, wall caps	Class A — 100% silane, all faces incl. top	2	3–5 yrs
Fence walls (both faces exposed)	Class A — 40% silane, both faces	2	7–10 yrs
Retaining wall — exposed face	Class A — 100% silane	2	5–7 yrs
Retaining wall — backfilled face	Class D over parge coat + drainage board	1 system	N/A (buried)
Below-grade / basement, positive side	Class C (Basecrete Xtreme) or Class D	2 coats Class C	N/A (buried)



Application / Exposure	System	Coats	Reseal Cycle
Planters & raised beds, interior face	Class C (Basecrete Xtreme)	2	Recoat on wear
Splash zones (pool surrounds, hose bibs, roof drip)	Class A — 100% silane + extend 24" beyond zone	2	3–5 yrs
Interior exposed block (conditioned space)	Optional — Class A siloxane for dust control	1	As needed
Soft / dusting faces (any exposure)	Class B first, then per exposure above	1 + per spec	Per exposure
Pool shells & immersed structures	Class E — Vortex system per Aquatics spec	Per mfr.	Per mfr.

On all exposed walls, mortar joints receive the brushed urethane/acrylic joint coating (Section 4) before the wall-wide repellent. Sealing is applied **after** mortar joints (treated per Section 4) are fully cured and any specified joint treatment (tooling, pointing, flexible sealant at movement joints) is complete. The Class A repellent bridges block and mortar; it does not substitute for flashing, weeps, copings, or movement joints.

7. Surface Preparation

7.1 Curing & Moisture

- New walls: minimum **7 days** after laying (block and mortar) before sealing — in West Texas heat and low humidity, walls are typically dry and joints cured well within a week. Extend to 14 days in cool or wet weather, and allow 7 days after grouting cores or bond beams.
- The real gate is moisture, not the calendar. Moisture check: tape an 18" × 18" plastic sheet to the wall for 16 hours (ASTM D4263 method). No condensation or darkening under the sheet = ready to seal, regardless of age past the 7-day minimum. Any moisture = wait and retest.
- No rain in the 24 hours before application; surface must be visibly dry and dry to the touch.

7.2 Cleaning

- Remove dust, mortar smears, and site soiling. Preferred: low-pressure wash (max 1,200 psi, 25° tip, 18" standoff) with clean water. Allow 48–72 hours drying in summer; longer in cool weather.
- Efflorescence: dry-brush first. Persistent deposits: dilute masonry detergent or a proprietary efflorescence remover, applied to a pre-wetted wall, scrubbed, and rinsed thoroughly. **Do not use raw muriatic acid** on reconstituted limestone — it etches the face and burns the finish. If an acidic cleaner is unavoidable, use a buffered masonry cleaner at the mildest effective dilution and test a 2 sq ft area first.
- Oil/organic stains: degrease and rinse; verify water beads no longer form from cleaner residue (residue blocks penetration).

7.3 Repairs & Protection

- Repair cracked units, open joints, and spalls before sealing. Hairline shrinkage cracks < 1/64" may be sealed over; anything wider gets repair mortar or sealant first.
- Install/verify flashing, weeps, coping joints, and control-joint sealant before the repellent goes on.
- Mask glass, aluminum frames, painted surfaces, plants, and vehicles. **Silane/siloxane overspray etches glass and stains anodized aluminum** — this is the most common (and most expensive) application mistake. Shield on windy days; keep vehicles 50 ft clear.

8. Application Procedure — Class A Penetrating Repellent

8.1 Conditions

Parameter	Limit
Surface & air temperature	40°F – 95°F. In San Angelo summer, apply before 11 AM or work shaded elevations; hot faces flash the carrier off before penetration.
Wind (spray application)	Under 15 mph. Above that, switch to roller/brush or stand down.
Rain window	None in prior 24 hrs; none forecast for 12 hrs after (24 hrs for water-based products).
Wall moisture	Dry per Section 7.1.

8.2 Method

- Equipment: low-pressure (15–40 psi) airless or pump-up sprayer with fan tip; solvent-rated hoses/seals for solvent-based silane. Roller (3/4" nap) and brush for cut-in and windy conditions.
- Step 1 — joint coating (all exposed walls):** brush-apply the clear urethane or acrylic coating (low gloss or satin) to every mortar joint per Section 4. Cut in carefully along the joint lines; allow the coating to cure per its data sheet before the repellent goes on.
- Step 2 — penetrating repellent, entire wall:** the Class A repellent is applied to **all wall sections**, block and joints alike, with **particular focus on the mortar joints** — slow the pass and let the material wet into each joint line. Work **top-down**, one elevation at a time, maintaining a wet edge. Flood-coat: apply enough material to produce a **6–8 inch rundown** below the spray contact point. Reconstituted limestone is thirsty — starving the coat is the #1 cause of early failure.
- Apply the **second coat wet-on-wet**, within 5–10 minutes of the first, before the surface flashes dry. Same flood-coat technique.
- Back-roll heavy runs and sills to avoid glossy over-application lines. Treat tops of copings, sills, and any horizontal block surface — these take the most water.
- Hollow-core walls: if cores are open at the top (pre-coping), the top course interior may be flood-coated before coping installation for extra protection on parapets and fence walls.
- Cure: keep foot traffic, irrigation, and rain off for 12–24 hrs. Full repellency develops over **72 hours** (silane needs time to react with the substrate).

8.3 Class C — Basecrete Xtreme (wet areas / positive-side waterproofing)

- Apply per the Aussieblock Basecrete Xtreme bulletin: SSD (saturated surface dry) substrate, 2 coats at right angles, ~40–50 sq ft/gal per coat, 4–6 hr recoat, 72 hr wet cure before immersion.
- Do **not** apply Class C over a wall already treated with a Class A repellent — the repellent kills the bond. Sequence Class C areas first, then repellent on adjacent dry-face areas.

9. Coverage Rates & Estimating

System	Coverage (per coat)	Coats	Net Rate (2-coat)	Example: 2,000 sq ft wall
Class A — 40% silane / siloxane blend	75–100 sq ft/gal	2	~40–50 sq ft/gal	40–50 gal
Class A — 100% silane	100–125 sq ft/gal	2	~50–60 sq ft/gal	33–40 gal



System	Coverage (per coat)	Coats	Net Rate (2-coat)	Example: 2,000 sq ft wall
Class B — silicate consolidant	150–200 sq ft/gal	1	150–200 sq ft/gal	10–13 gal
Class C — Basecrete Xtreme	40–50 sq ft/gal	2	~20–25 sq ft/gal	80–100 gal

Rates assume split/standard-texture reconstituted limestone faces. Rock-face or heavily textured units run 10–20% higher consumption. Always order from the low end of the coverage range and confirm with a 100 sq ft test area on the actual block.

Estimating rule of thumb (F44XL and similar full-height block): wall area (sq ft) = block count × face area per unit. Add both faces for fence walls, plus 5% for copings, returns, and rundown waste. **Joint coating:** estimate by linear footage of joints — brushed urethane/acrylic typically runs 200–300 lin ft per gallon on a 3/8" tooled joint; confirm on the test panel.

10. Resealing Schedule

Structure / Exposure	Reseal (Class A)	Notes
Residential walls, above grade	7–10 yrs	Sooner if water stops beading or efflorescence appears.
Commercial facades	5–7 yrs	Tie to the facade maintenance cycle.
Parapets, copings, sills	3–5 yrs	Highest UV + water load; first to lose repellency.
Retaining walls (exposed face)	5–7 yrs	Keep weeps and drainage open.
Splash & irrigation zones	3–5 yrs	Adjust sprinkler heads off the wall — irrigation is the top staining source.
Planters / wet areas (Class C)	Recoat on wear	Recoat at pinholes, crazing, or a damp exterior face.

Re-treatment

- Silane/siloxane can be reapplied over itself — no stripping required. Clean, dry, then re-flood-coat the affected area, feathering 12" into the surrounding sound area.
- Repoint any failed joints first (mortar dosed with MasterPel per Section 4, joint re-coated per Section 8) before resealing.
- Blocks darkening during or shortly after rain is **normal** (see Section 2) — re-treat only where water soaks in and darkens the face after the wall has otherwise dried.

11. Safety

- Read the SDS for the specific product before use. Solvent-based silanes are flammable — no ignition sources, ground equipment, ventilate.
- PPE: safety glasses/goggles, chemical-resistant gloves, long sleeves; organic-vapor respirator for solvent-based spray application or any enclosed/interior work.
- Protect the public: barricade sidewalks below work, post wet-surface signage, capture rundown at grade near landscaping.
- VOC compliance: verify product VOC against any project LEED or municipal requirements; water-based Class A options are available where limits apply.



12. Recommended Sealers & Coatings

Named products by system class. Approved equals may be substituted; the manufacturer's current data sheet always governs application. **Finish rule: everything on an exposed face is clear — low gloss or satin preferred, never high gloss.** Class A penetrating repellents are invisible and add no sheen. Cementitious and dampproofing membranes (Classes C–D) go on concealed or wet-service faces and are exempt from the clear-finish rule.

Use	Product	Manufacturer	Notes
Integral repellent — block	MasterPel 100	Master Builders Solutions	Batched into every Aussieblock unit at the plant.
Integral repellent — mortar	MasterPel 240	Master Builders Solutions	One dose per bag at the mixer; companion to MasterPel 100.
Class A — standard exposure	MasterProtect H 400	Master Builders Solutions	40% silane, water-based. Residential walls, fence walls.
Class A — standard exposure (alt)	Sure Klean Weather Seal Siloxane PD	Prosoco	Water-based siloxane blend; low odor, good for occupied sites.
Class A — severe exposure	MasterProtect H 1000	Master Builders Solutions	100% silane. Commercial facades, copings, splash zones.
Class A — severe exposure (alt)	Sure Klean Weather Seal SL100	Prosoco	100% silane alternative.
Class A — retail/small jobs	Armor SX5000 / SX5000 WB	Foundation Armor	Silane/siloxane; readily available for small residential work.
Class B — consolidant	Consolideck LS	Prosoco	Lithium silicate densifier for soft or dusting faces.
Class B — consolidant (alt)	Euco Diamond Hard	Euclid Chemical	Silicate/siliconate densifier.
Class C — cementitious waterproofing	Basecrete Xtreme	Basecrete	Aussieblock standard. Planters, wet areas, positive-side below grade.
Class C — alternate	MasterSeal 581	Master Builders Solutions	Polymer-modified cementitious coating.
Class D — dampproofing	Sealmastic emulsion (spray/trowel grade)	W.R. Meadows	Backfilled retaining/basement faces over parge coat.
Class D — drainage sheet	DELTA-MS dimple board	Dorken	Over dampproofing on backfilled faces with drainage aggregate.
Joint coating — acrylic (clear, satin)	Armor AR350	Foundation Armor	Clear satin acrylic; brush-applied to all exposed-wall mortar joints.
Joint coating — urethane (clear)	Armor UTN60 (matte/satin grade)	Foundation Armor	Clear urethane; use matte or satin grade — no gloss.
Class E — pool / immersed	Vortex polymer coating system	Vortex Coatings	Aussieblock is an authorized applicator; per Aquatics spec.

Prepared by Aussieblock, LLC. Product references (MasterProtect, Basecrete, Vortex) are trademarks of their respective manufacturers; always follow the current manufacturer data sheet, which governs over this bulletin in case of conflict. For project-specific sealing specifications or applicator scheduling, contact the Aussieblock office.