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Substrate Specification

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Specification for Plasterboard/Dry Lining Substrates.

This specification emphasises the considerations required on build quality and surface flatness. applicArt seek to provide a quality finish which will receive the long-term approval of the client and meet the expectations of the Architect and Project team.

This specification is for guidance only and describes good working practice. It does not claim to be the right or the only method of creating a solid substrate and is made without responsibility for the execution of the work. Build quality is the responsibility of the installer.

Architects, when specifying Polished Plaster, shall give special attention in their design to wall line and flatness, avoidance of cracks. Recommendations on these materials are in this specification.

Applying Polished Plaster puts a lot of pressure on substrate. Polished Plaster does not shrink or crack on its own, but being very hard, cracks in the substrate will penetrate through the finish.

4-5mm board joints filled with Cekol C-40 are much more crack resistant than butted board joints.

Substrates must be stable, dry, dust free, oil free, without cracks and completely flat. Dampness will affect the finish.

The walls should be firmly constructed in metal stud partition which shall be vertically plumb and built to a true horizontal line without undulations, bumps or hollows and within strict tolerance of plus or minus 1mm in 600mm and plus or minus in 1.8 meters or 1mm in 600mm.

In the construction of the stud work the vertical supports and cross supports shall be positioned to support all board joints for two layers of plasterboard on all four edges. Timber supports may be specified in limited circumstances but to minimise the risk of cracking shall be in seasoned timber to moisture content not exceeding that recommended in Part 2. If in doubt of the seasoned quality, specify metal studding.

The walls when boarded out shall have no discernible movement when subjected to intermittent pressures or impact.

Plasterboard shall be fixed vertically for straight walls and horizontally for curved and circular walls.

Two layers of 12.5mm plasterboard shall be used and each layer shall be supported on all four edges. The joint in the two layers shall be staggered to avoid fault lines that could induce cracking. The plasterboard shall not be cut beyond that necessary to end a run or to accommodate the stagger in two-layer work. The second (top) layer of plasterboard shall be constructed with open joints 4-5mm apart.

Self-drilling and self-tapping corrosion resistant drywall or jack point screws shall be used positioned 15mm from cut edges of boards and 12mm from bound edges. The line of the plasterboard shall be finished true with no discernible undulations, bumps, hollows or dives and within tolerances previously specified in **3**.

The dry lining boards shall be fixed to maintain the tolerance and avoid formation of bellies between supports. Place the first board in position and fix the first vertical edge. Press the board flat against the next vertical support and fix it. Continue to work progressively across the wall. DO NOT fix both vertical edges before fixing to the intermediate supports.

Sticking plasterboard of Polished Plaster involves the material being heavily trowelled as its finished. The normal forces involved are much greater than normal plastering and will only highlight any weaknesses in the substrate at the final stages.

The application of Polished Plaster involved the material being heavily trowelled as it is finished. The normal forces involved are much greater than normal plastering and will only highlight any weaknesses in the substrate at the final stages. If the dabs are not well adhered to the plasterboard, the pressure applied to the surface during trowelling can split the bond and cause subsequent problems.

Specification for Previously Decorated Walls

This specification which emphasises the considerations required on build quality and surface flatness seek to provide a quality finish which will receive the long-term approval of the client and meet the expectations of the Architect and project Team.

This specification is for guidance only and describes good working practice. It does not claim to be right or the only method of creating a solid substrate and is made without responsibility for the execution of the work. Build quality is the responsibility of the installer.

Applying Polished Plaster puts a lot of pressure on the substrate. Polished Plaster does not shrink or crack on its own but being very hard, cracks in the substrate will penetrate through the finish.

Substrates must be stable, dry, dust free, oil free, without cracks and completely flat. Any dampness will affect the finish.

Previously decorated walls on solid masonry or plasterboard substrates within acceptable tolerances, plus or minus 1mm in 600mm and 3mm in 1.8 metres, structurally sound (not delaminating) and of modern plaster type will make suitable substrates for Polished Plaster.

All wall coverings shall be removed, and the exposed Plaster sanded to remove any snags. Wall surfaces which can then be made good with approved repair compounds will be acceptable subject to the requirements stated in 2.

Skirting boards, architraves, dado and picture rails shall be removed and all damage made good. Walls previously painted with emulsion paint and oil-based paint shall be tested for bond strength. If bonded strength is good enough the surfaces should be lightly sanded to offer a light mechanical key.

If walls are flat and within tolerances, they are ready for Polished Plaster application.

If not fully bonded, all paint shall be removed, and the surface prepared for re plastering.

Walls that are uneven and / or are beyond acceptable tolerances shall be re plastered with one or two coats to achieve a true flat surface.

Plaster surfaces from which paint has been removed shall be sealed with one coat of ApplicArt wall base (Part Code 100135) and be allowed 24 hours to dry. The wall can then be plastered using an approved Plaster. All procedures shall be carried out to the manufacturer's specification and approved tolerances.

Specification for Plasterboard/Dry Lining Substrates – Internal Pools & Spa's.

This specification which emphasises the considerations required on build quality and surface flatness. ApplicArt seek to provide a quality finish which will receive the long-term approval of the client and meet the expectations of the architect/designer/contractor and project team.

This specification is for guidance only and describes good working practice. It does not claim to be the right or only method of creating a solid substrate and is made without responsibility for the execution of the work. Build quality is the responsibility of the installer.

When specifying Polished Plaster, it's important to give special attention in the design to wall line and flatness, avoidance of cracks.

Applying Polished Plaster puts a lot of pressure on the substrate. Polished Plaster does not shrink or crack on its own but being very hard, cracks in the substrate will penetrate through the finish.

Substrates must be **stable, dry, dust free, oil free, without cracks and completely flat.**

Special conditions need to be obeyed when applying Polished Plaster to the walls surrounding an interior swimming pool;

- Work should be conducted when the pool is empty or good ventilation and humidity control are present. Humidity levels need to be low to ensure adequate drying rates.
- Polished Plaster should only be applied to the walls of the swimming pool that will not get splashed in the routine use of the pool. However, walls that get splashed occasionally would be suitable.
- There should always be a water seal along the floor/wall to avoid damage from rising damp. (A 100-300mm stone or tile skirting offers good low-level protection against wear and tear is ideal for separating the wet floor from the polished plaster but a good water seal is required)
- Our recommendation is that there should be a minimum of 1.5 m from wall to poolside.
- The pool surround should be laid to a minimum fall of 1:50 wall to poolside.

Recommended Specification

- Metal Frame Gypline System, 400 centres
- Visqueen
- Double staggered Moisture Board
- Tape & Joint
- Flat Strap anything above 3metres

Gyproc Plasterboard linings used

Glasroc H TILEBACKER is suitable for use as a wall lining in areas such as shower enclosures, swimming pool halls and adjacent areas. Gyproc Moisture Resistant grade boards and Glasroc F specialist boards are not suitable to be used in those areas but can be considered for use in adjacent areas of wall lining and in most domestic situations. Attention to detail is critical and, in addition to all of the guidance given above, the following additional guidance should be considered:

- The lining boards must be lifted clear from any floor where free water is possible, and a suitable skirting detail must be employed which will not allow water penetration.
- In extreme moisture environments, Glasroc H TILEBACKER must be used in conjunction with a tanking system.
- Thistle plasters are not recommended for this type of environment with the exception of Thistle DriCoat undercoat which is cement based and could be considered in conjunction with a completely sealed impervious system.

Fixing Plaster Board

Construction	Board Thickness (mm)	Length of fixing screws	Max fixing centre (mm)	Max support centre (mm)
Timber frame support using dry wall screws		1 st board 36 2 nd board 50	300	600
Metal frame supports 0.55mm to 0.7mm use drywall screws 0.75mm to 2.4mm use jack point screws	12.5	1 st board 25 2 nd board 38	300	600
For curved or circular walls reduce support centres to 300mm				

Finishing Techniques

- 12.5mm plasterboard is recommended
- The plasterboard installation should be followed as outlined in Substrate Specification (using moisture resistant plasterboard instead of standard plasterboard).
- The plasterboard should be taped and jointed in accordance to the manufacturers guidelines of installing moisture resistant plasterboard in humid environments.

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- Application of polished plaster as per ApplicArt standard method.
- The plaster is allowed a minimum of 2 days to cure.

The walls when boarded out shall have no discernible movement when subjected to intermittent pressures or impact

Plasterboard shall be fixed vertically for straight walls and horizontally for curved and circular walls.

The application of Polished Plaster involves the material being heavily trowelled as it is finished. The normal forces involved are much greater than normal plastering and will only highlight any weaknesses in the substrate at the final stages.

● Specification for Plasterboard/Drylining Substrates – Ceilings.

CasoLine MF – Concealed Monolithic metal frame suspended ceiling system.

CasoLine MF is a suspended ceiling system suitable for most internal drylining applications. The fully concealed grid and ceiling lining can be used in conjunction with Gyproc plasterboards, Gyptone and Rigitone acoustic ceiling boards to create a seamless monolithic appearance.

Key Benefits:

- High level of design flexibility; bulkheads, gradients and changes in height can all be fully integrated.
- Services inspection and access points are easily included during design or installation.
- Adaptable metal framing system fully compatible with a wide range of British Gypsum lining solutions to achieve a variety of performance tailored to meet individual project requirements.
- Improvement to acoustic and fire performance can be achieved without the need to access the room above.
- Partition heights can be reduced as the partition channel can be supported by the ceiling framework rather than the soffit.

For more information, please refer to [British Gypsum White Book \(british-gypsum.com\)](http://british-gypsum.com)

● Specification for Plasterboard/Drylining Substrates – Swimming Pool Hall Ceilings.

Recommendations for ceilings in Swimming Pool Hall Environment:

- Metal & Frame CasoLine ceiling system
- Visqueen layer, attached to metal framework system.
- Single Moisture Board
- Tape & Joint
- Top Coat Dry Wall Sealer

Specification for floors

as advised by Manufacturer.

Pre-application conditions and substrate preparation

If the substrate does not meet the necessary conditions, we will not be able to apply the micro cement with guarantees.

Conditions prior to application

Cleanliness.

The substrate must be clean, free of dust and grease.

Flatness.

Micro cement is applied in layers of no more than 1mm, and the sum of these will not exceed four millimetres, so we cannot solve flatness issues with this material, we must solve the irregularities of the support before starting the application. The Micro cement can be applied on floors, walls and even ceilings, the final result will depend on the substrate and the work of the applicator.

Consistency.

The application base must be stable. Substrates with powdery mortars or loose tiles are not suitable; depending on their state, they will have to be removed or consolidated with quick-setting mortars with compensated shrinkage.

Free of damp.

If there is damp in the substrate, micro cement cannot be applied. It will be necessary to first determine its origin and eliminate it, we recommend using a moisture meter to check that the humidity never exceeds 5%.

The substrate must have undergone a sufficient setting process. We must bear in mind that the temperature and relative humidity of the environment, together with the ventilation of the work space, affect the drying process of the mortars and accelerate or delay the setting process.

Protection of the work area

We must protect the work area properly and the surfaces that we are not going to cover, as micro cement adheres very strongly and is difficult to clean when it dries. We will use protection material common in painting works, such as painter's tape, protective paper, plastic covers...

Recommended support in the swimming pool system

It is applied on sprayed or gunned concrete, the support being clean, consolidated and in good planimetric conditions. **It must not be applied on stoneware.**

Preparation of the substrate

The application of the microcement will begin with the priming of the substrate using adhesion promoters and the placement of the fibreglass mesh.

Priming with adhesion promoters

Adhesion promoters have several functions: they ensure better adhesion on any type of substrate, increase its cohesion, improve the speed of application of the first coat of micro cement, and prevent the premature loss of moisture from the micro-mortar.

Supports have different absorption capacities, so we must use solutions for each of them, promoters for non-absorbent surfaces, for absorbent surfaces, for surfaces that need a certain degree of consolidation or promoters for surfaces that may have moisture problems.



Micro cement on stoneware, terrazzo, hydraulic tile or marble

To coat this type of support that is not very porous or not at all porous, we must use Primacem Plus, promoter for non-absorbent surfaces, the process will be as follows:

- Fill the joints with Microbase and leave to dry for 24 hours. If the joints are very thin we can use Microdeck or even Microfino.
- Apply a layer of Primacem PLUS by roller together with the Builtex mesh.
- Allow to dry for at least 30 minutes and apply the first coat of Microbase.
- Allow to dry for 24 hours, apply a coat of Primacem PLUS and apply the second coat of Microbase.

**** Please note that with all floor substrates applicArt recommend a site visit before any advice can be given, all floors are different and have a different build up/footprint. ****

All Micro Cement product data sheets are available at www.applicart.co.uk

Care and Maintenance

Polished Plaster is primarily made from marble powder and in many respects behaves like solid stone; it is in its nature to be slightly absorbent and to darken when wet and then lighten when dry. The only problem with this would be that liquids soaking into plaster could leave residues when they dry out forming stains in the same way that happens with stone.

Polished Plaster can never be as impervious and inert as glass or glazed tile. As with marble, oils, hot candle wax and solvent solutions containing colourant, such as mouthwash, may penetrate the seal and leave a stain. Any polished plaster surface likely to come into contact with such materials should be protected with a sheet of glass. In a similar manner, try not to leave sponges or flannels on the surface for prolonged periods as some moisture may eventually penetrate. Use a soap dish rather than leaving a wet bar of soap directly on the finish.

Lime scale is chemically the same as marble. ApplicArt does not recommend the use of lime scale remover on Polished Plaster surfaces as they may become etched and dull. In hard water areas, it is a good idea to fit a chemical water softener to the water supply to eliminate the build-up of lime scale altogether. If de-scaling cleaning products need to be used, use very dilute solutions only and ensure that the solution is applied and wiped off in quick succession.

Exposure time should be kept to an absolute minimum. Re-applying wax after de-scaling the Polished Plaster will greatly add to its protection.

**All product data sheets for Venetian Polished Plaster Materials are available at
www.applicart.co.uk**

For any further information on substrates please refer to [British Gypsum White Book \(british-gypsum.com\)](http://british-gypsum.com)