Drywall Jointing & Finishing

SURFACE QUALITY LEVEL CLASSIFICATIONS
This document has been jointly realised by the European Union of contractors of plastering, dry lining, stucco and related activities (UEEP) and Eurogypsum. It describes four levels of jointing and finishing gypsum board surfaces prior to the application of specific types of final decoration. The surface quality level classification on wall and ceiling surfaces varies with the final decoration to be applied and can also be dependent on their location into a building and the type of illumination striking the surface.

Those quality level classifications aim at introducing a European manual of quality levels of plasterboards finishing which could be applied across Europe adapting the guidelines to the national requirements. They will also encourage the architects, builders and building owners to look forward towards suitably agreed finished surfaces, and to enhance the appearance of the final decorative treatment, and thereby enlist a satisfied client.

The final touch of plasterboard finish (level 4) is called plaster skimming which is a difficult art to master. Plaster skimming is a method of providing a smooth, seamless surface ready to receive decorative treatment or being a decorative surface with coloured plasters. Skim plastering gives many of the advantages of a traditional plaster finish combined with quick turnaround on site.

Plaster skimming is popular in the United Kingdom and Ireland where skilled plasterers and plasterboard erectors master this art but still unknown in most of the European countries.

In addition to be the future of plasterboard finishing, skimming (Q4 level) brings value to the building workers work conditions by avoiding sanding and enabling the use of spray plaster skimming machines, thereby reducing the risk of musculoskeletal disorders at work. It further provides additional and innovative skills to the plasterers and plasterboard erectors enabling them to become experts in various field of plastering and plasterboard finishing. This gives them a real advantage in terms of flexibility on the employment market place.

The surface quality level 4 or skimming is thus intended to become the standard in plasterboard finishing. In promoting the best finishing surface we expect not only to create satisfaction for the final customer and value for the contractor but also as significant amount of skilled jobs in the plastering activity.
Introduction

This leaflet applies to the installation of drywall systems.

Traditionally, the quality of a surface has been judged subjectively. This leaflet provides clear definitions of finish quality, advice on application and criteria to judge the result.

In order to use this document the building materials being used, their dimensional tolerances, and the level of workmanship must all be considered during planning.

When considering the jointing of plasterboards, four quality levels have been described:

- **Quality Level 1 (Q1)**
- **Quality Level 2 (Q2)**
- **Quality Level 3 (Q3)**
- **Quality Level 4 (Q4)**

Light (natural or artificial) at a shallow angle can affect the appearance of the surface.

Ideally the lighting conditions expected in use should be known in advance. Flood-lighting to judge the surface quality on site is not acceptable. The limits of manual workmanship should also be borne in mind. Skimmed surfaces, which are perfectly even and free of any shadow, cannot be achieved.

**Specifying the expected finished surface quality.**

Terms such as “ready-for-painting”, “ready-for-covering” and other similar phrases are not suitable for describing the required quality level. To ensure the expected finish surface quality is understood by all, the specific terms Q1, Q2, Q3 or Q4 should be used throughout.

If no specific quality level is set as above, then by default quality level Q2 is assumed.
Q1 Quality level 1

The basic filling of plasterboard joints (Q1) is sufficient for surfaces that do not have any decorative finish requirements.

Jointing in accordance with Quality Level 1 includes:
> the filling of the joints between the gypsum wallboards and
> the covering of the visible parts of the fixings.

Excess jointing compound should be removed. Tool marks, grooves and ridges are allowed.

Basic filling includes the tape that is used to cover and reinforce the joint area, provided this is required by the chosen jointing system (compound, type of board edges).

Q2 Quality level 2

Jointing and finishing according to Quality Level 2 (Q2) fulfils the basic requirements for wall and ceiling surfaces.

The main objective of this quality level is to align the joint area with a continuous transition to the board surface. The same objective also applies to fixings, corners, and abutments/connections with jointing materials.

Jointing and finishing in accordance with Quality Level 2 includes:
> basic filling (Q1)
> finishing in order to achieve a continuous transition to the board surface, including sanding the jointed areas if necessary.

Application marks or ridges cannot be totally avoided.

This type of surface is suitable for:
> medium and coarse structured wall coverings, e.g. ingrained / textured wallpaper or standard wallpaper
> matt, filling, medium and coarse structured paint coatings/coats (e.g. emulsion paints) that are applied manually with a lambskin or structured roller
> top coats (maximum particle size > 1 mm) as recommended by the manufacturer for the particular plasterboard system.

When Quality Level 2 is used as the basis for finishing coverings, marks cannot be totally avoided, particularly under the effect of shallow light. These effects can be reduced by specifying joint work to Quality Level 3.
Q3 Quality level 3

If higher demands are made on quality addition to Q2, then additional procedures are necessary.

Jointing and finishing in accordance with quality level 3 includes:

> jointing and finishing to Q2, plus
> wider finishing of the joint and a tight coat of joint compound to the entire plasterboard surface, filling the pores.

Physical ridges and grooves are not acceptable. Even then, under the effect of shallow light, visible marks cannot be totally eliminated. The level and extent of such marks will be considerably lower than in the case of Q2.

This type of drywall surface is suitable for:

> fine structured wall coverings
> matt and fine structured paint coatings
> top coats (maximum particle size less than 1 mm)

Q4 Quality level 4

If high-end drywall surface is required, then the entire drywall surface must be fully covered with either a layer of jointing compound or a skim coat of plaster.

Quality Level 4 includes:

> jointing and finishing to Q2 plus
> a complete surface covering of skim coat with a suitable material (minimum thickness > 1 mm).

This type of drywall surface is suitable for:

> smooth or structured glossy wall coverings, such as metal-based or vinyl wallpapers
> scumbles, paints or coats up to medium gloss
> Special coatings, stucco marble or similar specialist decorative finishes.

The skim coat covering that fulfils the requirements in accordance with this quality level should minimize any marks or traces on the drywall surface and in the joints. The undesirable effects of shallow lighting on the appearance of the finished surface (e.g. noticeable shadows on the surface, or local markings), will be avoided to a large extent, however such effects cannot be avoided completely because natural light in particular can vary and is difficult to predict. Ideally, the lighting conditions expected in use should be known and replicated as best as is practical when the skimming work takes place. Additionally, the limits of manual workmanship must be borne in mind. Skimmed surfaces which are perfectly even and free of any shading cannot be achieved.

Depending on the site it is recommended to carry out a trial/test area of Q4 surface of sufficient size under final lighting conditions. This job would normally be ordered separately by the client.

In specific cases it may be necessary to introduce additional procedures for the pre-treatment of the final drywall surface, for example for:

> glossy coats
> varnish coats
> wallpapers with varnish type surface
Considerations at Design and Execution Stage

Jointing and finishing materials must be in accordance with the European standard EN 13963. The selection of the type of drywall filler or finishing system, and joint tape usage should be based upon:

> the type of construction, e.g. single-layer or multi-layer board application
> board type, edge and thickness
> climate conditions on site
> the type of wall coverings e.g. tiles, plasters, paints, wallpapers.

These factors should be taken into consideration during the design phase.

The climatic conditions on site should be considered with regards to temperature and relative humidity.

To achieve the quality levels Q2, Q3 and Q4 it is crucial to adhere to the recommended drying times between application steps.

Wall coverings such as coats of paint, wallpaper or plaster must be applied only after the jointing or finishing compound has set and dried thoroughly.

Additional coating materials (such as primers) that are compatible with both the substrate and the wall covering may need to be applied by the contractor. This should also be taken into consideration for repair and maintenance work.
Considerations at Specification Stage

To ensure the intended design is realised it is essential to define the final covering or coating and the drywall finished surface quality level during the planning phase (refer also to the section “Considerations at design an execution stage”). The planner must define the quality level taking into consideration the final covering and the light conditions in-use.

The required quality level and, where necessary, the type of finish application should be specified and agreed in the contract. Q4 levels of finish should be applied in similar lighting conditions as those expected during the later use of the building. This must be stated in the specification (see Q4).

The examples given for the suitability of subsequent finish types and coverings in each of the quality levels Q2, Q3 & Q4 above should be considered as guidance only. The specific subsequent finish type or covering must be defined in the specification. In addition, any specific special characteristics of the final coat or wall covering and the ultimate appearance of the finished drywall should be taken into consideration during planning and in the specification.

Quality Level 3 should be combined with the highest surface flatness requirements provided by European or National standards or guidelines.

Quality Level 4 must be combined with highest surface flatness requirements provided by European or National standards or guidelines. Therefore it is also recommended to use double layered systems.

The terms such as “ready-for-painting”, “ready-for-covering” and other similar phrases are not suitable for describing the required quality level. To ensure the expected finish surface quality is understood by all, the specific terms Q1, Q2, Q3 or Q4 should be used throughout.

If no specific quality level is set as above, then by default quality level Q2 is assumed.

References
EN 13 963
Materials for Filling and Finishing Gypsum Wallboard Joints – Definitions, Requirements and Test Methods
Produits pour l'enduisage des joints de plaques de plâtre – Définitions, exigences et essais
Materialien für das Verspachteln von Gipsplatten-Fugen – Definitionen, Anforderungen und Prüfverfahren
<table>
<thead>
<tr>
<th>Level</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
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<tbody>
<tr>
<td><strong>Level of finishing</strong></td>
<td>Jointed surface</td>
<td>Smooth surface for normal visual</td>
<td>Smooth surface for higher visual</td>
<td>Smooth surface for high visual</td>
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<tr>
<td></td>
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<td>requirements</td>
<td>requirements</td>
<td>requirements</td>
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<tr>
<td><strong>Aesthetic requirements</strong></td>
<td>None</td>
<td>Normal</td>
<td>Enhanced. Few marks and traces</td>
<td>High end. Minimized appearance of any</td>
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<td></td>
<td></td>
<td></td>
<td>under direct light. Shading is still</td>
<td>marks or traces. Shading caused by</td>
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<td>possible under shallow light angles</td>
<td>shallow light angles will be avoided</td>
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<td>to a large extent</td>
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<tr>
<td><strong>Application requirements</strong></td>
<td>Joints filled with suitable joint compound</td>
<td>Joints filled, finished to achieve a</td>
<td>Joints filled, finished (Q2), plus</td>
<td>Joints filled, finished (Q2) plus a</td>
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<td></td>
<td></td>
<td>continuous transition to the board</td>
<td>wide finish trowelling and a sharp</td>
<td>complete surface covering skim coat</td>
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<td></td>
<td>surface, sanded if necessary</td>
<td>trowelled full cover of the plaster</td>
<td>of min 1 mm thickness.</td>
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<td>board surface (filling the paper pores)</td>
<td></td>
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<tr>
<td>**Finished surface</td>
<td>Only suitable for functional applications,</td>
<td>Medium and coarse structured wall</td>
<td>Fine structured wall coverings, matt,</td>
<td>Smooth or glossy wall coverings, e.g.</td>
</tr>
<tr>
<td>suitability**</td>
<td>such as stability, fire resistance and</td>
<td>coverings, matt, filling, medium and</td>
<td>fine structured paint coatings/coats,</td>
<td>metal-based or vinyl wallpapers,</td>
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<td></td>
<td>sound insulation. E.g. filing joints of the</td>
<td>coarse structured paint coatings/coats,</td>
<td>top coats (largest particle size less</td>
<td>scumbles, paints or coats up to</td>
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<td></td>
<td>first board layer, under tile coverings or</td>
<td>top coats (particle size/ largest</td>
<td>than 1 mm)</td>
<td>medium gloss, stucco marbel or similar</td>
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<td></td>
<td>thick layered plasters.</td>
<td>particle over 1 mm)</td>
<td></td>
<td>specialist decorative finishes.</td>
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<td><strong>Flatness requirements</strong></td>
<td>Refer to National standards</td>
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