

DRYWALL CONTRACTORS ASSOCIATION OF NEVADA

DCAN - SW

Representing Nevada, Arizona, and California

5 Levels of Drywall Finish and 5 Levels of Paint Finish with Exterior Paint Info

Customer Service Booklet - 2017_{Rev1}

This booklet contains information *compiled and summarized* by the DCAN on these topics over the past 20 years. This information is meant to provide the facts in a concise manner related to the 5 Levels of Drywall and Paint Finish. The booklet highlights the need to consider the Texture Type, Paint Sheen, Paint Color, and Paint Type prior to determining what Level of Drywall Finish to Specify. Generally speaking, the Paint Finish Level should not exceed the Drywall Finish Level. The Booklet also covers Evaluation Guidelines for Drywall and Paint Finish, along with a section on Exterior Finish Selection and Painting.

The Levels and procedures outlined in this booklet are the result of meetings with manufacturers and subcontractors. These procedures work. They are not meant to needlessly increase the cost of construction, rather they are meant to do the job correct the first time in a manner consistent with manufacturer and industry requirements.

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DCAN 5 Levels of Drywall Finish

Multiple industry organizations have published versions of the 5 Levels of Drywall Finish. The most widely used and referenced document on this topic is the "*Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber Reinforced Gypsum Panels*" produced by the Gypsum Association (See Attachment 1 - Gypsum Association GA-214-2015).

DCAN agrees with the information contained in the GA 214 document, however we are including specific comments / requirements with respect to hand textures versus machine applied textures, specific requirements on priming prior to texture, specific requirements on "belly bands", and how these are each incorporated in the Level of Drywall Finish.

Also, DCAN is requiring (not just recommending) a drywall prime coat prior to texture application for large spanning ceilings on Level 3 applications, and for all areas for a Level 4 or Level 5 Drywall Finish. These items are discussed in detail below.

Textures - Hand Texture versus Machine Applied:

A **Machine Applied Texture** is applied with a spray rig. Typical patterns include knockdown, orange peel, and splatter. These finishes go on quickly and look nice, however they are difficult to patch and are more prone to photograph joints, particularly if a drywall primer is not used prior to texture.

A **Hand Texture** is applied by hand. There are many possible finishes, however the two most popular in production are the **Skip Trowel** and **Santa Fe**. These finishes take a bit more time to apply, however they offer more "hide" (coverage for the joints) and are much easier to patch. **This is a huge benefit to home builders in mitigating back end costs** for repairs required from Ridging and Cracking (see DCAN Joint Ridging and Centerline Cracking Customer Service Booklet), trade damage, and other items. **Additionally, homebuyers and building owners by in large prefer the appearance of hand texture versus machine applied.**

Because of the popularity of Hand Textures, Westpac Materials has produced a document discussing Skip Trowel and Santa Fe Textures titled "*Drywall and Hand Texture Information*" (Attachment 2). This document is helpful to homebuilders, homeowners, and others interested parties.

To apply a Skip Trowel or Santa Fe texture, the applicator is basically applying a coat of joint compound to the majority of the drywall surface prior to painting. As mentioned above, this process increases hide, therefore **DCAN considers drywall finished to a Level 3 then Hand Textured, to be a Level 4 Drywall Finish. This is a huge benefit to homebuilders and building owners who are now moving to darker tone, and/or two tone paints which require a Level 4 Drywall Finish.**

Drywall Texture Primer:

The drywall face paper and joint compounds have different porosity and absorption rates. This variance can cause machine applied textures, or paint, to dry differently over the face paper versus the joint compound, which may lead to joint photographing. Additionally, hand textures, particularly skip trowel finishes, applied over unprimed drywall, are difficult to finish because the moisture is sucked out of the texture coat as it is being applied, which causes finish deformations, etc. For these reasons, joint compound manufacturers have recommended the use of a drywall texture primer prior to texture.

DCAN has researched this carefully and determined that **for a Level 3 Drywall Finish, a texture primer will only be required in large spanning ceiling areas. For a Level 4 or 5 Drywall Finish, a texture primer is required on all walls and ceilings prior to texture.** These requirements are based on years of experience and owner complaints when Level 4 Paint Finish (darker tones and sheens other than flat) are applied over Level 3 Drywall Finish.

DCAN 5 Levels of Drywall Finish Summary Chart

As shown in the Summary Chart below, increased Levels of Drywall Finish require more coats of joint compound and additional steps, such as priming before texture, and a skim coat after texture. These additional steps require more time in the schedule and cost more to install.

Drywall Level of Finish	Joints	Corners	Nails and Screws	Texture	Prime or Skim prior to Texture
Level 1 - Fire Tape	Joint Tape Embedded	Joint Tape Embedded	None	None	N/A
Level 2	Taped embedded and wiped smooth - 1 Coat	1 Coat	1 Coat	None	N/A
Level 3	2 Coats Joint Compound	2 Coats	2 Coats	Heavy Pattern Only or Hand Texture	Texture Primer Required on Large Span Ceilings only
Level 4 with Hand Texture	2 Coats Joint Compound	2 Coats	2 Coats	Skip Trowel or Santa Fe or other full cover	Texture Primer Required before Skip Trowel Texture. Santa Fe Hand Texture does not require texture primer.
Level 4 with Machine Texture	3 Coats Joint Compound	3 Coats	3 Coats	Heavy to Light Pattern - Orange Peel etc...ok	Texture Primer Required
Level 5 Smooth Wall	3 Coats Joint Compound	3 Coats	3 Coats	Any texture Pattern Smooth Wall ok	Machine Applied: Texture Prime Required and Skim Coat after Texture. Smooth Wall: Skim Coat after finishing drywall.

Please refer to GA-214-2015 for a complete discussion of each Level of Drywall Finish.

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It is imperative that the proper Level of Drywall Finish be specified in accordance with the Level of Paint Finish Selected.

Evaluation Guidelines for Level of Drywall Finish: Drywall shall be evaluated from a minimum distance of 5' away, perpendicular from the surface and viewed at any angle - see GA 214 at page 4 Inspection Criteria. This is the industry standard. Drywall is not to be evaluated by getting up close with lights shining down walls or ceilings. This process is helpful to locate imperfections but is not an industry standard evaluation method to evaluate completed work.

Job Schedule and Environment Comment: DCAN has published an Industry Recommended Job Schedule for Drywall and Paint. This booklet covers temperature range, dry times, ventilation, and other factors that should be considered when determining the job schedule. Rushing the drywall finishing and paint process may save up front but often has adverse effects on the quality of the finished product. Please refer to DCAN Industry Recommended Job Schedule for Drywall and Paint Booklet for a detailed discussion on this topic.

DCAN 5 Levels of Paint Finish

In 2004 DCAN met with multiple paint manufacturers and developed the 5 Levels of Paint Finish. This project was undertaken to create information to assist homebuilders and others in properly specifying Levels of Paint Finish, in connection with Levels of Drywall Finish, to deliver high quality products to their customers. **It is imperative that all parties understand that Levels of Drywall and Paint Finish must be specified together, and that the Level of Paint Finish cannot exceed the Level of Drywall Finish specified.** For example, you cannot specify a Level 3 Drywall Finish then apply a Level 4 Paint Finish without taking a chance of encountering problems. A Level 3 Drywall Finish goes with a Level 3 Paint Finish, Level 4 Drywall with a Level 4 Paint Finish, etc. This is important.

Since then, several industry associations have published versions of the 5 Levels of Paint Finish. In our opinion, the best one, aside from the DCAN document, is the *"Recommended Levels of Paint Finish Over Gypsum Board"* produced by the Drywall Finishing Council (Attachment 3).

DCAN agrees with the information contained in the Drywall Finishing Council Document with the exception of the Level 3 Paint Finish requirements and a minor exception to the Level 4 Paint Finish Requirements. Additionally, DCAN and the paint manufacturers we have spoken with, feel it necessary to include comments and requirements on paint types (i.e. flat, eggshell, semi-gloss, gloss, etc.) with respect to the Level of Paint Finish selected, along with some job sequencing information and suggestions on back rolling (running a paint roller over surface after spray application). All of these items are discussed in detail below.

Paint Touch Up versus Drywall Repair Comment: Paint manufactures use the term "touch up" to mean that the paint will be able to blend over minor dings, etc. when the core of the

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drywall is not exposed and the repair is in a small area (1" x 1" or so). Once an actual hole is made in the wall, or some other excessive damage occurs, then this is no longer considered touch up and moves into drywall repair, which typically requires that the entire wall or ceiling in question be repainted corner to corner.

Drywall Completion Systems versus Paint Primer Comment: The use of products like Westpac's Prep Coat prior to texture and Westpac's Smooth Coat after texture, or a skim coat of joint compound after texture, are part of the drywall specification and are not considered paint primers. Paint primers are to be used in accordance with the paint specification per manufacturer's recommendations after the drywall scope of work is complete.

Additionally, DCAN recommends the use of a **low solid, penetrating paint primer** (versus PVA sealer type primers) for Level 4 or Level 5 paint finishes, particularly when applied over hand textures. Low solid, penetrating primers strengthen the bond of the joint treatment and texture which assists in mitigating drywall and paint system compatibility issues when masking products are removed from the painted surface.

Level 3 Paint Finish Summary:

- **Minimum Level of Drywall Finish Required: Level 3**
- **Drywall Texture:** Heavy pattern only such as knockdown or Hand Texture - see Levels of Drywall Finish above.
- **Paint Type:** Must be **flat paint only**. Residential Note: Kitchen and Bath may be semi-gloss.
- **Paint Color:** Must have a **Light Reflective Value (color) > 75**. If you have LRV < 75 you need to specify a Level 4 or Level 5 Drywall and Paint Finish.
- **Paint Grade: Production Grade** - this is typically the least expensive paint.
- **Application:**

One coat of Primer and One Coat of Finish Paint or Two Separate Coats of Finish Paint. Paint should be applied 6-8 mils wet and dry to 2-3 mils.

Note: Level 3 flat paint with LRV>75 has been successfully applied in **one coat with Cross-Hatch** (left to right then up and down or vice-versa) with no primer for years in the Las Vegas market, however some manufacturers do not approve this method of application (see manufacturers specification to make this determination). If paint is not self priming, then 2 separate wet coats must be applied. Should be applied 6-8 mils wet and dry to 2-3 mils.

Back rolling is recommended after spray application. Back roll assists with later touch up and helps paint lay down / cover in a more uniform manner.

- **Patching / Touch Up:** Paint with LRV > 75 should be able to touch up if final coat was back rolled or roller applied.

If LRV < 75, you need a Level 4 Paint Finish. This will not touch up and will need corner to corner repaint.

Level 4 Paint Finish Summary:

- **Minimum Level of Drywall Finish Required: Level 4**
- **Drywall Texture** - Heavy to light patterns or Hand Textures acceptable. **Smooth Wall not an acceptable application.** See Levels of Drywall Finish above.
- **Paint Type:** Flat paint only (Level 4 can now have color and two tone, etc. as long as paint is flat. Eggshell, semi-gloss, gloss, require Level 5 Finish).
- **Paint Color:** Must have a **Light Reflective Value (color) > 50.** If you have an LRV < 50 you need to specify a Level 5 Drywall and Paint Finish.
- **Paint Grade: Professional Grade** - this is better and more expensive paint than the Level 3 Production Grade.

DCAN and the paint manufacturers we have spoken with do not recommend tinting Level 3 Production Grade Paint a darker color and using it in a Level 4 application. Do the job correct and specify the better paint.

- **Application:**

Must be two separate wet coats of paint. 4 wet mils per coat, dry to approximate 1.5 mils per coat. (Note: Sherwin Williams Requires Level 5 Paint Finish for all paint that is not flat with LRV > 75 - See Level 5 requirements following).

Can be one coat of primer and one coat of top coat, or two coats of top coat material (see manufacturer's paint specification to make this determination).

Sequence: DCAN recommends the production coat (1st coat) be applied, then the final coat (2nd coat) be rolled at the pre-final stage (or at minimum back rolled for spray applications). This sequence allows for all trade damage, etc. to be patched prior to the 2nd coat of paint, therefore the 2nd coat of paint will serve as corner to corner touch up and will not be subject to large amounts of patching that does not blend in. Yes this costs more to do, but it is the correct process to avoid problems.

Back roll required for spray application on Level 4 Finish for touch up purposes. If you do not back roll, touch up will be difficult without another spray application.

- Patching / Touch Up: Professional Grade Paint with an LRV > 50 with a back roll or roller application on the final coat, may be able to achieve minor touch up, however major trade damage with multiple patches, etc. will require corner to corner repaint - See Sequence comments above.

If an LRV < 50, you need a Level 5 Paint Finish. This will not touch up adequately and will need corner to corner repaint.

Level 5 Paint Finish Summary:

- **Minimum Level of Drywall Finish Required: Level 5** (Note: Level 5 Paint Finish may be applied over Level 4 Drywall Finish as long as the Paint has an LRV > 50 and the drywall is not a smooth wall finish).
- **Drywall Texture:** Any texture pattern including Smooth Wall ok - See Levels of Drywall Finish above.
- **Paint Type:** Any Sheen
- **Paint Color:** Any Color
- **Paint Grade: Professional Grade:**

Use a high quality manufacturer recommended Level 5 paint. Do not tint inexpensive paint a dark color on a Level 5 Finish.

- **Application:**

Must have a manufacturer recommended primer. It is important to make sure the correct primer is used. Certain top coats require certain primers to perform properly. *Note: Drywall Primers such as Prep Coat and Smooth Coat are not paint primers. The painter needs to use the proper paint primer once the drywall subcontractor is complete.*

Must have two separate wet top coats of paint. 4 wet mils per coat, dry to approximate 1.5 mils per coat. This is in addition to the primer above. Consult with your paint representative on what they recommend to achieve a Level 5 Paint Finish. Do not use Level 3 production paint tinted a dark color.

Sequence: DCAN requires the primer and production coat (1st coat) be applied, then the final coat (3rd coat) be rolled at the pre-final stage (or at minimum back rolled for spray applications). This sequence allows for all trade damage etc...to be patched prior to the final coat of paint, therefore the final coat of paint will serve as corner to corner touch up

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and will not be subject to large amounts of patching that does not blend in. Yes this costs more to do, but it is the correct process to avoid problems.

Back roll required for spray application on Level 5 Finish for touch up purposes. If you do not back roll, touch up will be difficult without another spray application.

- Patching / Touch Up: Professional Grade Paint with darker colors will require corner to corner repaint for trade damage, etc. See Sequence comments above.

Levels of Paint Finish Summary Chart

Paint	Grade / Quality	Number of Coats	Touch Up	Sheen	Colors
Level 1	Paint Primer or Wall Covering Primer	1	N/A	N/A	N/A
Level 2	Production Grade	1	No	Flat Only	White
Level 3	Production Grade	1 Cross-Hatch or 2	Yes	(Self Priming) Flat on Walls / Ceilings – Semi Gloss in Kit / Bath	White Off White (LRV > 75)
Level 4	Professional Grade	2	No Corner to Corner	Flat Paints Only Recommended. See Manufacturer specifications for other sheens.	White Medium Colors (LRV 50-75)
Level 5	Premium Grade	3	No Corner to Corner	Any Available	Any

Please refer to the Drywall Finishing Council's document entitled "*Recommended Levels of Paint Finish Over Gypsum Board*" for a complete discussion of each Level of Paint Finish and terminology, etc.

It is imperative that the proper Level of Drywall Finish be specified in accordance with the Level of Paint Finish selected.

If you have any questions regarding this information, please contact our offices at the number listed below.

DCAN General Information for Stucco and Exterior Painting

I. General Information for Stucco and Exterior Painting

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The stucco and exterior painting information discussed below has been developed specifically for the Las Vegas market. This information is based on well known industry standards and is intended to assist and educate our industry on good design practices. It has been developed with the assistance of numerous manufacturers, plastering and painting subcontractors, and builders in this area.

It is important to select the appropriate stucco system, finish, paint, and color that is best suited for your particular application and desired result. Following is general information to consider regarding each of these areas, as well as brief comments on potential problems Las Vegas builders and subcontractors encounter in stucco and painting.

Stucco Systems: Listed below are the three most common stucco systems. Please consider the pros and cons of each when determining which system is best for your project/job.

1 Coat: By far the most popular system installed in Las Vegas. Typical 1 Coat systems have black paper, a layer of 1” foam (9/16” in shear wall locations), wire, a scratch/brown coat, and a finish texture coat. Some of the advantages of a 1 Coat system include:

- It is the fastest and easiest to install.
- It is more energy efficient than 3 coat. One coat can achieve an R19 with an R11 insulated wall.
- It has improved crack resistance over a 3 Coat system.

3 Coat: Typical 3 Coat systems have black paper, wire, a scratch coat, a brown coat, and finish coat. 3 coat systems take more time and labor to install, therefore they usually cost more than 1 Coat. Also, 3 Coat is not as well suited as a 1 Coat system for the desert climate. The main advantage of a 3 Coat system is improved impact resistance over a 1 Coat system, although this point is often debated.

Integral Color Finish Products: Integral color finish products are gaining popularity because of their improved resistance to water stains and cracks, and the fact that the color is already in the finish, which means no paint required. These finishes can be applied over 1 Coat or 3 Coat systems, however they are more expensive and typically only used in custom home applications.

Finish Selection: Listed below are the four most common stucco textures used in Las Vegas, along with some general information regarding each. Additionally, pictures of the different finishes and suggested application procedures can be found in the *TSIB Plaster Textures and Acrylic Finishes booklet* (Attachment 4). Please carefully consider this information when choosing the finish for your project.

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Lace: Lace is the most widely applied finish with approximately 75% of new residential construction in Las Vegas. Lace is popular because:

- It is the easiest to finish and provides a nice appearance.
- It can typically be painted with one coat (2 coats may be required if dark colors are used).
- It is the easiest to patch/repair.
- It covers / hides imperfections well.
- Lace is typically used in production homes and is considered a **Level 3** finish.

Dash: Although currently popular and aesthetically pleasing, dash finish can become labor intensive for the subcontractor. Builders should consider the following before selecting this finish:

- Dash is more labor intensive / difficult to work with.
- Dash typically requires twice as much paint as a lace finish.
- Dash is often difficult to patch.
- Dash is typically used in custom home applications and is considered a **Level 4** finish.

Sand Float: Sand Float can be fine, medium, or coarse depending on the aggregate used. Sand Float finish is seldom used in Vegas. When it is used, most subcontractors insist on using elastomeric paint with this finish. Sand Float is considered a Level 4 Finish, used mainly in upgraded production and custom homes.

Smooth: Smooth finish is the most difficult to hide imperfections and is the most prone to crack, therefore elastomeric paint is strongly recommended. Smooth finish is rarely used in production homes and is considered a **Level 5** Finish.

Type of Paint:

Vinyl Acrylic: Least expensive cost, standard production material. Vinyl Acrylic is the least resistant to water stains and color fade of the products discussed in this section. Approximately 70% of the homes in the Las Vegas area are painted with Vinyl Acrylic and it is considered a **Level 3** production home material.

100% Acrylic: Higher cost, upgraded production material, better color retention, better resistance to water stains, and longer lasting. 100% Acrylic is considered **Level 4/5** paint and is compatible with upgraded finish selections like dash, sand float, and smooth.

Elastomeric: Higher labor and material costs, requires primer, and may require more than 1 coat to achieve desired dry mil thickness. The benefits of elastomeric paint include improved water resistance, less cracking, and better fade resistance. Elastomeric paint also is beneficial with high PH surfaces and typically offers extended 5-10 year warranties (check with manufacturer). Elastomeric paint is considered **Level 5** paint finish product and is compatible with any stucco finish.

Color Selection

White: Very white or pure white color typically requires two coats of paint to cover.

LRV 50 to 80: *Optimal color selection* for the least problems. Can typically be finished with one heavy coat of paint.

LRV < 50: Requires two coats of paint, or a primer and one coat of finish. Suggest using a pH resistant primer, if possible.

Darker colors are more subject to pH color burn and UV fading issues.

Potential Problems:

Climate: Las Vegas is extremely hot and dry in the summer and cool and damp in the winter. Following are the manufacturer's recommendations regarding temperature and humidity.

Portland cement products should not be applied in temperatures below 40 degrees Fahrenheit. Cement products need to cure, and temperatures below 40 degrees may prevent proper curing, or in some cases may freeze prior to curing. Additionally, warm and windy conditions can lead to extended cure times due to water evaporating from the cement prior to curing.

Paint products should not be applied in temperatures less than 50 degrees Fahrenheit. Paint should not be applied over cement products having moisture content higher than 6%. Applying paint over wet cement can lead to impurities from the cement being pulled to the surface as the paint dries which causes color fading and other issues.

Cracking: *Portland cement exterior plaster is prone to crack.* As discussed above, cracks are more apparent with certain finishes and colors. Cracking is discussed in the SNHBA Performance Guidelines. Please refer to this document for more information on industry standards for cracks.

Efflorescence and pH Levels: This is an extensive industry problem, particularly in Las Vegas with our hard water and high pH cement. Since this is such a large issue, numerous exhaustive articles, studies, and reports are available on this topic. Following is a summarized version of some key points of interest on efflorescence.

Efflorescence is the appearance of a white deposit on the surface of Portland cement plaster finishes. It typically appears when moisture is added to the surface of the finish and is most common during periods of wet, damp and cold weather.

pH Level: The stucco surface should be tested for pH prior to painting. Stucco should not be painted until the pH Level 8 or less for Vinyl Acrylic and 100% Acrylic Paint and pH Level 12 or less for Elastomeric Paint. Surface pH can easily be tested with a pH Pencil or Phenol Phaline spray test. Both test are very inexpensive and can be performed by field personnel with ease.

The pH level of concrete can usually be reduced by continuing to water the cement surface over a period of time. It is important to note, pH level reduction is a function of time, and is not always quickly reduced by watering. If it becomes necessary to paint high pH surfaces, primer products can be used to pH Levels of 13. Please consult your paint manufacturer or painting subcontractor for recommendations.

Another important point to consider is the plaster subcontractors and manufacturers recommend watering the building 2-3 times (as shown in the following schedule) after the texture coat to assist with cement curing. This recommendation has nothing to do with pH Levels, and is in fact not even an assurance of a 100% cure. Testing for cure usually involves a simple scratch test which has been a long time industry standard.

pH Level is particularly important to the painting subcontractor, since there are numerous problems associated with painting high pH surfaces. Again, plaster subcontractors and manufacturers are concerned with cure time; painting subcontractors are concerned with pH Levels. As previously stated, there are numerous problems related to painting surfaces with pH > 8, and it is not recommended. In many other states, cement surfaces are simply not painted until the pH drops to 8 or less.

If you have any questions regarding this information, please contact our offices at the number listed below.