Veneer Plaster Systems are a contemporary, integrated application providing smooth, high-quality wall surfaces for both residential and commercial applications. They feature ease and speed of installation along with uniform performance and quality. Veneer plaster systems utilize thinly troweled, special-purpose plasters applied to Kal-Kore® Plaster Base or applied directly to bonded masonry or bonded concrete substrates.

1. Kal-Kore® Plaster Base
2. Kal-Mesh® Joint Tape
3. Kal-Kote® Basecoat
4. Kal-Kote® Smooth Finish or Kal-Kote® Texture Finish
**Basic Uses**

**APPLICATIONS**

Use for virtually all types of partition and ceiling construction, including wood or steel framing and furring and masonry, for both residential and commercial buildings.

**VENeer PLASTER SYSTEM ADVANTAGES**

- Provides high resistance to cracking, impact and abrasion failure.
- Enhances overall wall strength and abrasion resistance.
- Provides an excellent base over which paints or other finishes should be applied.
- Provides faster installation than conventional plaster systems, which reduces overall construction time.
- Mill-mixed plaster components help assure uniform installation performance and quality.
- Applications in multiple fire-rated assemblies, including column fireproofing.

**Installation Recommendations**

**GENERAL**

- A top-quality veneer plastering job requires not only top-grade plaster products but also careful planning, handling and storage of material. Plumb and true framing and properly installed plaster bases are equally vital. Examine the framing and bases carefully before proceeding with work.
- Install plaster base, veneer plaster and accessories consistent with methods described in the noted standards, including ASTM C843 and ASTM C844, additional references listed in this document, and as indicated below.
- Veneer Plaster Systems are to be installed with maximum deflection criteria of L/240.
- Gypsum panel product joints shall be located so that no joint will occur within 12 in. (305 mm) of the corner of a window or door opening unless control joints are to be installed at these locations.
- Apply bonding agent to non-plaster base gypsum board, monolithic concrete, Portland cement plaster and to stable, existing gypsum plaster surfaces prior to application of veneer plaster systems.
- Bring plaster to a true level surface without the application of additional water.
- Tolerances: For flatness of surface, do not exceed 1/8 in. (3.2 mm) in 10 ft. (3,048 mm) for bow or warp of surface and for plumb and level.
- National Gypsum veneer plaster products are formulated for hand use.
- Do not retemper plaster mix.
- Keep tools and mixing equipment clean.
- Veneer Plasters provide a working time of approximately one hour. Mix only the quantity of plaster which can be applied and finished within one hour.
Gold Bond® BRAND 
Uni-Kal® Veneer Plaster

DESCRIPTION
Gold Bond® BRAND Uni-Kal® Smooth Finish Veneer Plaster is a
mill-mixed veneer finish plaster for smooth and textured troweled
applications. It consists of specially ground, calcined gypsum,
requiring the addition of water. Texturing grade silica sand may
be added for textured finish. Complies with ASTM C587.

APPLICATIONS
Use as a single-coat application over gypsum plaster base. A
finish coat of Uni-Kal® Veneer Plaster may be used for interior
smooth and textured trowel application over a gypsum plaster
basecoat or as a single-coat application over gypsum plaster base.

TECHNICAL DATA

<p>| | |</p>
<table>
<thead>
<tr>
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<tr>
<td>Packaging</td>
<td>49.5 lb. (22.5 kg) / Bag</td>
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<td>Water Ratio</td>
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<tr>
<td>PSI</td>
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<tr>
<td>Approx. Coverage per Bag – Applied Thickness</td>
<td>135 – 150 sq. ft. (12 – 14 m²) / 3/32” (2.4 mm)</td>
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<tr>
<td>One Coat to Level Over Masonry</td>
<td>70 – 80 sq. ft. (6.5 – 7.5 m²)</td>
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Gold Bond® BRAND 
X-KALibur® Veneer Plaster

DESCRIPTION
Gold Bond® BRAND X-KALibur® Extended Set Veneer Plaster is a
mill-mixed veneer finish plaster for smooth troweled applications
where an extended setting time is desirable. It consists of specially
ground, calcined gypsum, requiring the addition of water.
Texturing grade silica sand may be added for textured finish.
Complies with ASTM C587.

APPLICATIONS
Use as a single-coat application over gypsum plaster base.
A finish coat of X-KALibur® may be used for interior smooth and
textured trowel application over a gypsum plaster basecoat.

TECHNICAL DATA

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<table>
<thead>
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<td>Approx. Coverage per Bag – Applied Thickness</td>
<td>135 – 150 sq. ft. (12 – 14 m²) / 3/32” (2.4 mm)</td>
</tr>
<tr>
<td>One Coat to Level Over Masonry</td>
<td>70 – 80 sq. ft. (6.5 – 7.5 m²)</td>
</tr>
</tbody>
</table>
**Gold Bond® BRAND Kal-Kote® Basecoat Veneer Plaster**

**DESCRIPTION**

Gold Bond® BRAND Kal-Kote® Basecoat Plaster is a specially designed high-strength basecoat plaster for application 1/16 in. (1.6 mm) minimum thickness over Kal-Kore® Plaster Base, masonry or monolithic concrete that has been treated with a bonding agent. Strength of Kal-Kote® Basecoat is substantially greater than that exhibited by typical sanded basecoat plaster.

**APPLICATIONS**

Veneer Plaster two-coat systems may be specified for virtually all types of partition and ceiling constructions, including wood or steel framing, or furring and masonry. For both residential and commercial buildings, either type of veneer plaster system produces a wall surface that is resistant to nail pops.

Kal-Kote Basecoat is a high strength basecoat plaster for application over Kal-Kore. This system offers four finish options: Kal-Kote® Smooth, Kal-Kote® Texture, Uni-Kal® and X-KALibur®.

**TECHNICAL DATA**

<table>
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<tr>
<th>Packaging</th>
<th>49.5 lb. (22.5 kg) / Bag</th>
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<tbody>
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<tr>
<td>PSI</td>
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<td>Approx. Coverage per Bag – Applied Thickness</td>
<td>93 – 106 sq. ft. (8.6 – 9.8 m²)</td>
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<td>One Coat to Level Over Masonry</td>
<td>50 – 63 sq. ft. (4.6 – 5.8 m²)</td>
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**Gold Bond® BRAND Kal-Kote® Smooth Finish Plaster**

**DESCRIPTION**

Gold Bond® BRAND Kal-Kote® Smooth Finish Plaster is a mill-mixed finish plaster for two-coat smooth-troweled applications. It consists of specially ground, calcined gypsum, requiring the addition of water. Complies with ASTM C587.

**APPLICATIONS**

A finish coat of Kal-Kote® Smooth Finish Plaster is intended for interior smooth trowel application over a gypsum plaster basecoat.

Apply smooth finish plasters at a thickness of not more than 1/16 in. (1.6 mm).

**TECHNICAL DATA**

<table>
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<tr>
<th>Packaging</th>
<th>49.5 lb. (22.5 kg) / Bag</th>
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<td>PSI</td>
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<tr>
<td>Approx. Coverage per Bag – Applied Thickness</td>
<td>145 – 160 sq. ft. (13 – 15 m²)</td>
</tr>
<tr>
<td></td>
<td>1/16” (1.6 mm)</td>
</tr>
</tbody>
</table>
Gold Bond® BRAND
Kal-Kote® Texture Finish Plaster

DESCRIPTION
Gold Bond® BRAND Kal-Kote® Texture Finish Plaster is a mill-mixed finish plaster for textured applications. It consists of specially ground, calcined gypsum and aggregate, requiring the addition of water. Complies with ASTM C587.

APPLICATIONS
A finish coat of Kal-Kote Smooth Finish Plaster is intended for interior textured application over a gypsum plaster basecoat in a two-coat system.

Apply smooth finish plasters at a thickness of not more than 1/16 in. (1.6 mm).

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tr>
<td>Water Ratio</td>
<td>11 – 12 qts. / Bag</td>
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<tr>
<td>PSI</td>
<td>1,000</td>
</tr>
<tr>
<td>Approx. Coverage per Bag – Applied Thickness</td>
<td>145 – 160 sq. ft. (13 – 15 m²) / 1/16” (1.6 mm)</td>
</tr>
</tbody>
</table>
Set times will be affected by jobsite conditions, such as minerals in the water, cleanliness of the tools and by the addition of various materials used to adjust the working characteristics of the plaster. National Gypsum only recommends commercial accelerators or retarders manufactured for those specific purposes.

Veneer Plasters are designed for trowel application and are not suitable for conveyance or application by conventional plastering machines.

**TREATMENT OF KAL-KORE® JOINTS FOR VENEER PLASTER SYSTEMS**

Pre-treat all joints and fasteners in Kal-Kote® and Uni-Kal® Plaster Systems with Kal-Kote® Basecoat Plaster, Uni-Kal®, X-KALibur® or Quick Set™ Joint Compound. Low humidity, high temperatures and rapidly circulating air can cause cracking of plaster and joint beading when Kal-Kore® is applied to metal framing. To minimize this during these conditions, joints may be pre-treated using paper tape.

Three acceptable methods of treating Kal-Kore joints are:

**Drywall Paper Tape Treatment Method**

1. Trowel Kal-Kote Basecoat Plaster, Uni-Kal or X-KALibur over joint line filling the channel formed by the tapered edges of the Kal-Kore Board in an even fashion.

2. Center drywall paper tape over the joint line and embed the tape into the soft plaster using a trowel and level the joint. Tape the full length of the joint.

3. Allow the treated joints to set prior to general plaster application.

**ProForm® Brand Quick Set™ Compound and Paper Tape Treatment Method**

1. Mix Quick Set™ Compound per instructions on package. Do not contaminate the compound with other materials, dirty water or previous mixes. Do not retemper.

2. Apply the Quick Set Compound to the joint by hand or machine tool. The drywall paper tape must be centered over the joint line and embedded into the soft compound. Do not over-trowel to a slick surface. Leave the surface rough to provide mechanical keying of the plaster.

3. Allow the treated joints to set and dry prior to general plastering.

**Mesh Treatment Method**

Do not use self-adhering mesh.

1. Center and secure mesh over all joints and interior angles with 1/4 in. (6.4 mm) or 5/16 in. (7.9 mm) staples.

2. Position staples a maximum of 24 in. (610 mm) apart as follows:

   A. Joints: at alternate edges for the run from end-to-end and directly opposite one another at either end.

   B. Angles: along ceiling edge only for wall-to-ceiling angles. Along one edge for wall-to-wall angles.

3. After the first staples are placed at the end of a joint or angle, pull unstapled mesh as stapling proceeds to assure that it will lie flat against the Kal-Kore.

4. Pre-treat all joints and beads with Kal-Kote, Uni-Kal or X-KALibur Plaster. Tightly trowel over joint line in both directions to prevent voids, feathering to a maximum width of about 6 in. (152 mm).

5. Allow the treated joints to set prior to general plaster application.

**APPLICATION OF VENEER PLASTER OVER KAL-KORE PLASTER BASE**

**Kal-Kote Application Over Kal-Kore**

**Basecoat Over Kal-Kore**

1. Tightly scratch material into previously treated joints and cornerbeads, then immediately scratch-in tightly over the wall and/or ceiling area.

2. Double back over the area just troweled with material from the same batch, bringing total thickness up to 1/16 in. (1.6 mm) minimum.

3. When plaster has “taken up,” eliminate excessive trowel marks and fill all surface voids and imperfections to obtain a reasonably uniform surface. Do not over-trowel to a slick surface. Roughen the unset basecoat plaster surface with a serrated darby or lightly wire rake to provide mechanical keying for the finish plaster when necessary.
Smooth Finish Over Basecoat

1. Apply only over properly prepared Kal-Kote® Basecoat. Scratch-in tightly, then double back with material from the same batch immediately to create a uniform coat not exceeding 1/16 in. (1.6 mm) in average thickness.

2. Remove trowel marks, “cat faces” and other major surface imperfections by “drawing up” or “laying down” the surface with light trowel pressure when plaster has stiffened. Use water sparingly if needed, but do not over-trowel or over-water because this aggravates any normal tendency for blistering when working over such low suction bases. Such blistering will be eliminated by the final water troweling operations.

3. Water-trowel to densify and polish the surface to the desired degree when plaster has set, eliminating any blistering if present.

4. Uni-Kal® and X-KALibur® Plaster may be substituted for Kal-Kote® Smooth Finish.

Texture Finish Over Basecoat

1. Apply only over properly prepared Kal-Kote Basecoat. Scratch-in tightly, then double back with material from the same batch immediately to create a uniform coat not exceeding 1/16 in. (1.6 mm) in average thickness.

2. When plaster has stiffened, float its surface to the desired finish. Do not float the surface of plaster, which has already set. For texturing with Uni-Kal and X-KALibur, add up to equal parts of clean, graded silica sand.

UNI-KAL® OR X-KALIBUR® APPLICATION OVER KAL-KORE®

1. Tightly scratch material into previously treated joints and cornerbeads, then immediately scratch-in tightly over the wall and/or ceiling area.

2. Double back over area just troweled with material from the same batch, bringing total thickness up to 3/32" (2.4 mm) maximum.

3. Begin finish troweling at time of initial set, using water sparingly. Final troweling must be accomplished before final set takes place, as evidenced by darkening of the surface.

Drying

Allow veneer plaster systems to dry 48 hours minimum under ambient conditions prior to final decoration. Variances in humidity or poor drying conditions may affect the drying process.

Painting Plaster

The veneer plaster should not be considered a finished product. Various job conditions, such as suction differences, wet or only partially dry walls, and reactions between paint and lime, have caused unsatisfactory paint finishes, particularly on new construction.

Alkali-resistant primers specifically formulated for use over new plaster will permit decorating with oil- or latex-type paints.

Quality paint products should be used and paint manufacturers’ recommendations followed. Finished plaster should be painted or covered to conceal possible discoloration. The paint system should be suitable for use over plaster surfaces that contain lime, which has a high pH of 10-13.

It is essential that plaster be stable and completely dry before painting. Under good drying conditions, veneer plaster may be painted 48 hours after application.

High build, heavy duty and special purpose coatings, such as epoxy, are not recommended over veneer or job-gauged lime putty finishes. In all cases, the paint manufacturer should be consulted and approve the paint system suitability for use with gypsum/lime finish plaster.

<table>
<thead>
<tr>
<th>Standard Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM C59</td>
<td>Standard Specification for Gypsum Casting Plaster and Gypsum Molding Plaster</td>
</tr>
<tr>
<td>ASTM C472</td>
<td>Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete</td>
</tr>
<tr>
<td>ASTM C516</td>
<td>Standard Specification for Vermiculite Loose Fill Thermal Insulation</td>
</tr>
<tr>
<td>ASTM C549</td>
<td>Standard Specification for Perlite Loose Fill Insulation</td>
</tr>
<tr>
<td>ASTM C587</td>
<td>Standard Specification for Gypsum Veneer Plaster</td>
</tr>
<tr>
<td>ASTM C843</td>
<td>Standard Specification for Application of Gypsum Veneer Plaster</td>
</tr>
</tbody>
</table>

National Gypsum Company   NGC Construction Guide
MIXING

Equipment: Mixing should be done with a high-speed mechanical mixer. A paddle-type agitator fitted to a 500-600 RPM heavy duty, 1/2 in. electric drill and a clean, smooth-sided drum of convenient size are recommended for rapid, efficient mixing of all Kal-Kote® Plaster types.


PROCEDURE

1. Put all but 1 to 2 qts. of the proper water volume in a suitable mixing drum.

Note: Starting with an insufficient amount of mixing water will seriously degrade mixing and application performance.

2. Add plaster and allow to soak for about 1 minute or add plaster as mixer is turning, then mix until uniformly wetted.

3. Add remaining water and mix sufficiently to obtain desired lump-free material fluidity.

Note:

A. Mixing periods greater than 5 minutes will not be required if proper equipment and procedure are used.

B. Mix no more than two bags per batch to avoid mixing too far in advance of application.

C. Caution is advised against mixing more than two successive batches without thorough equipment clean-up to avoid undue set acceleration.

D. Avoid the practice of mixing partial bags since this leads to difficulty in maintaining uniform material qualities.

VENeer PLASTers DIRECT To BOND-COATED MONOLITHIC CONCreTE

DESCRIPTION

The Kal-Kote System, consisting of a basecoat plaster and a finish coat plaster, Uni-Kal or X-KALibur may be applied directly to monolithic concrete treated with a bonding agent.

LIMITATIONS

1. Surface to be plastered shall be treated with a bonding agent applied according to manufacturer’s directions. The performance of this system is the sole responsibility of the bonding agent manufacturer.

2. Concrete should be aged at least one month prior to plastering.

3. Kal-Kote Smooth or Texture Finishes are not designed for direct application to concrete, but must first have Kal-Kote Base Plaster applied to fill and level surface.

4. Do not apply system to the interior side of exterior walls below grade. To use above grade, these walls shall be kept dry and shall have been properly waterproofed on the exterior side to prevent water penetration.

APPLICATION PROCEDURES

Note: Application shall conform to ASTM C843.

Kal-Kote Base Application Over Bonding Agent

1. First straighten any major surface irregularities, such as holes, ridges and wavy sections. Scratch plaster in tightly by trowel and fill out to any adjacent level area.

2. After the straightening material has set, trowel in a tight scratch coat over the entire area to be plastered; then immediately double back with material from the same batch to minimum thickness of 1/16 in. (1.6 mm) or as required to achieve a level surface. Use a rod or feather edge if needed.

3. When plaster has “taken up,” eliminate excessive trowel marks and fill all surface voids and imperfections to obtain a reasonably uniform surface. Do not trowel to a slick surface. Roughen the unset basecoat plaster surface with a serrated darby or lightly wire rake to provide mechanical keying for the finish plaster when necessary.
**Smooth or Textured Finishes**

Apply finishes to the Kal-Kote® Plaster as outlined under the regular Kal-Kote System as described on page 153.

**Uni-Kal® or X-KALibur® Application Over Bonding Agent**

1. First straighten any major surface irregularities such as holes, ridges and wavy sections. Scratch plaster in tightly by trowel and fill out to any adjacent level area.

2. Allow the straightening material to set.

3. Tightly scratch material in over the wall and/or ceiling area. This application should be about 1/16 in. (1.6 mm) thick. Double back over the area just troweled with material from the same batch, bringing total thickness up to 3/32 in. (2.4 mm) minimum.

4. Begin finish troweling at time of initial set, using water sparingly. Final troweling must be accomplished before complete set takes place, as evidenced by darkening of the surface.

**Limitations**

- Not for exterior use.

- Do not use in interior areas where directly exposed to free water or severe moisture conditions.

- Do not use in areas subjected to temperatures exceeding 125°F (52°C) for extended periods.

**FIRE RESISTANCE**

Kal-Kote® Basecoat and Finishes: Fire ratings equivalent to those of drywall systems can be obtained by applying the corresponding Kal-Kore® type and thickness over the same framing member size and spacing, with the same fasteners and 1/8 in. (3.2 mm) of Kal-Kote plasters.

**Gold Bond® BRAND Uni-Kal®**: Fire ratings equivalent to those of drywall systems can be obtained by applying the corresponding Kal-Kore® type and thickness over the same framing member size and spacing with the same fasteners and 3/32 in. (2.4 mm) of Uni-Kal®.

**Gold Bond® BRAND X-KALibur®**: Fire ratings equivalent to those of drywall systems can be obtained by applying the corresponding Kal-Kore® type and thickness over the same framing member size and spacing with the same fasteners and 3/32 in. (2.4 mm) of X-KALibur.

**HANDLING AND PROJECT CONDITIONS**

- Avoid water exposure during shipping, handling, storage and installation.

- Keep plaster material dry. Take adequate care while transporting, storing, applying and maintaining plaster. Store products off the ground, under cover and away from moisture sources.

- Maintain a temperature of at least 55°F (13°C) and not more than 80°F (27°C) before, during and after plastering.

- Provide adequate but not excessive ventilation.

- Avoid exposure to direct sunlight prior to installation and application.

- Prevent dryouts by covering heat ducts and window openings where necessary until material has come to a final set.

- Protect adjacent materials from soiling and spattering.

**Accessories**

**Veneer Plaster System Accessories**: The following accessories are commonly utilized in conjunction with Veneer Plaster Systems:

- **Mesh**: A coated fiberglass tape stapled to Kal-Kore Plaster Base to reinforce joints and interior angles.

- **ProForm® Brand Paper Tape**: Designed for use with ready mix or setting-type joint compounds and gypsum veneer plaster systems to conceal and reinforce joints.

- **Veneer Cornerbead**: A special galvanized bead with a 1/8 in. (3.2 mm) ground and 1-1/4 in. (31.8 mm) flanges used to reinforce exterior corners.

- **Expanded Veneer Cornerbead**: Used as an alternative to the veneer cornerbead for exterior corners. Galvanized steel with 1-1/8 in. (28.6 mm) flanges.

- **Veneer L Trim Casing Bead**: Used as a finished edge at door and window jambs; galvanized steel.

- **Veneer J Trim Casing Bead**: Used as a finished edge at door and window jambs by slipping over edge of plaster base; galvanized steel.

- **E-Z Strip Control Joint**: An extruded vinyl control joint to relieve stresses in Veneer Plaster Systems.

- **.093 Zinc Control Joint**: All-zinc control joint designed to relieve stresses in Veneer Plaster Systems.

*Metal products are not manufactured by National Gypsum Company.*
**CORNER – WOOD STUDS DETAIL**

1. Wood Studs
2. Kal-Kore Plaster Base
3. Kal-Kore Joint
4. Kal-Mesh or Paper Tape
5. Kal-Kote Base and Finish

**CORNER – STEEL STUDS DETAIL**

1. Steel Studs
2. Kal-Kore Plaster Base
3. Kal-Mesh or Paper Tape
4. Kal-Kote Base and Finish
5. Cornerbead

**JOINT DETAIL**

1. Wood Stud
2. Kal-Kore Plaster Base
3. Kal-Kore Joint
4. Kal-Mesh or Paper Tape
5. Kal-Kote Base and Finish

**1-HOUR FIRE-RATED CONTROL JOINT DETAIL**

1. 2-1/2" Min. Steel Studs
2. 5/8" Fire-Shield
3. Kal-Kore Plaster Base
4. Control Joint
5. 1-5/8" Type S Screws 24" o.c.

* Based on Warnock-Hersey Report No. WH-651-0318.1 and Factory Mutual Design No. W18-1 hr.

**SUSPENDED VENEER PLASTER CONTROL JOINT**

1. 1-1/2" C.R. Channel
2. 1-1/2" C.R. Channel Piece 16" Long-Nested (Two Tie Wires each side)
3. Hanger Wire
4. Furring Channel
5. Tie Wire
6. Kal-Kore Plaster Base
7. Control Joint
8. Kal-Kote Base and Finish