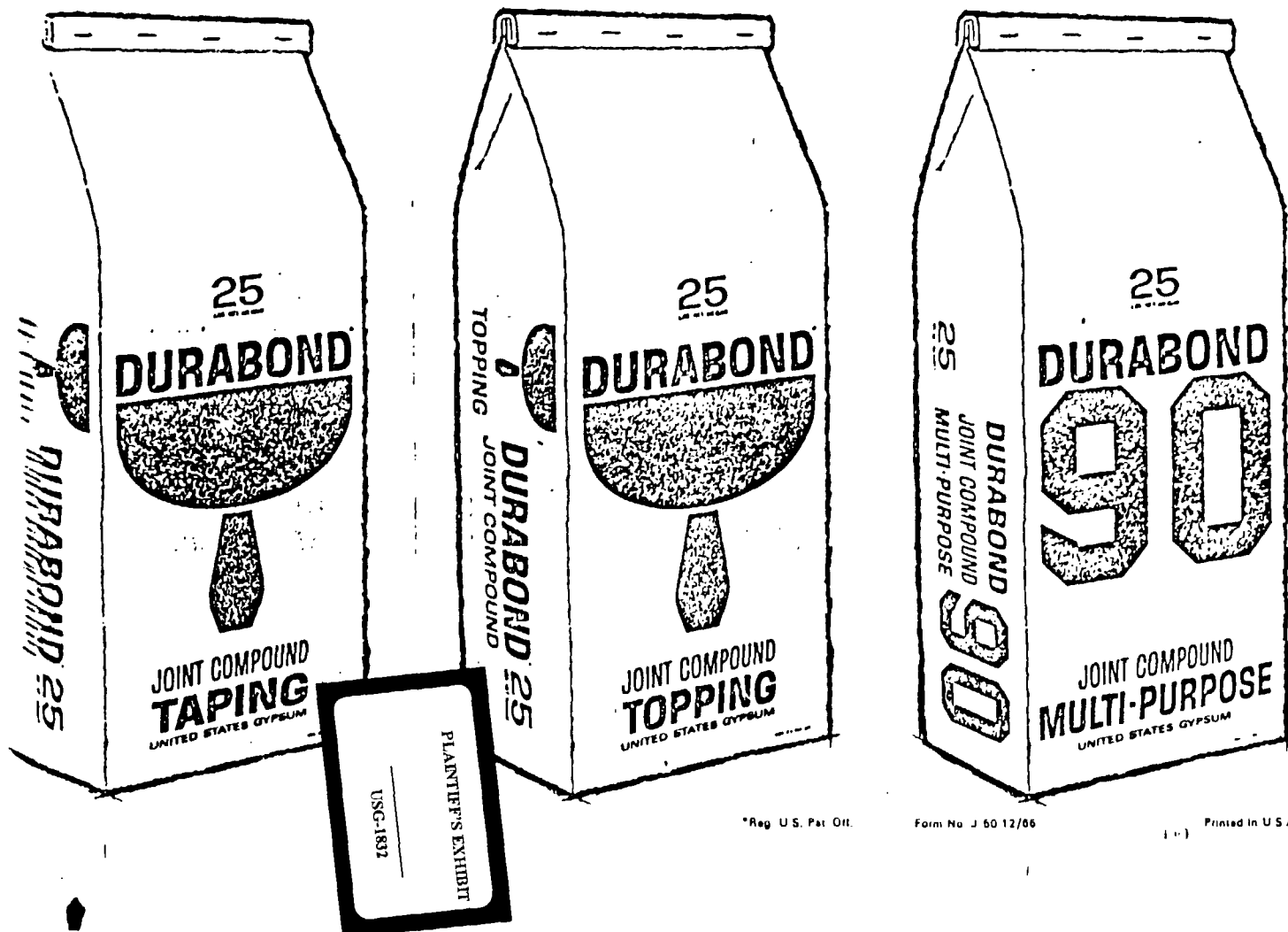


Soft Tan-color Bag Holds DURABOND* Joint Compounds, our Rugged-Service Treatment for Special Applications



*Reg. U.S. Pat. Off.

Form No. J 60 12/66

Printed in U.S.A.

1. New Bright Look... encourages attention helps Dealers "move" compound from their stock rooms... into working bags. "We use the best."

2. New Square Shape made up to be compact. Square-bottom bags are easier to handle, store more compactly... save you money in handling and warehousing costs.

3. New Plastic Liner gives contents superior protection. Tough poly film is moisture-resistant... resists punctures... fights off weather, water, dirt, other contaminants. Your investment in U.S.G. materials is better protected from the time you get your order, to the time the compound is mixed and applied.

4. New Improved Sealing locks in factory freshness, extends shelf life, resists contaminants that might prematurely age contents.

5. New Color Keyed Printing gives "Instant Identification." Choose compound groups by the color of the kraft paper bag: brown for PERP-A-TAPE, tan for DURABOND*. Choose application types by the color of the printing: red for Taping, blue for Topping or green for All Purpose. Sure, simple, effective. This easy two-way system lets you tell-at-a-glance which bag contains what compound. Beats fuss and fumbling. Helps eliminate mistakes in handling, order-filling, and mixing on the job... saves time and money.

New, Clear Designation. All the names will read the same way: (a) Our brand name, such as "PERP-A-TAPE"... (b) then "Joint Compound"... (c) finally application purpose: "Taping" for embedding, "Topping" for finishing, or "All Purpose" for Taping, Topping or Texturing. Your order "PERP-A-TAPE Joint Compound—Taping"... the bag you receive will read exactly this way.

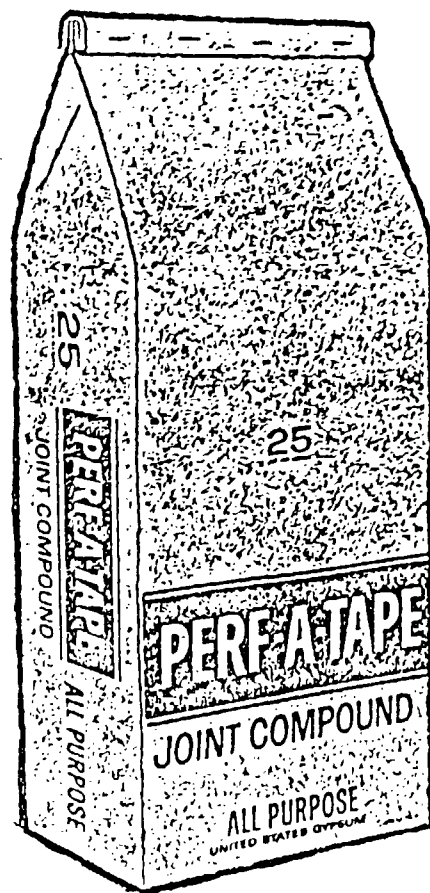
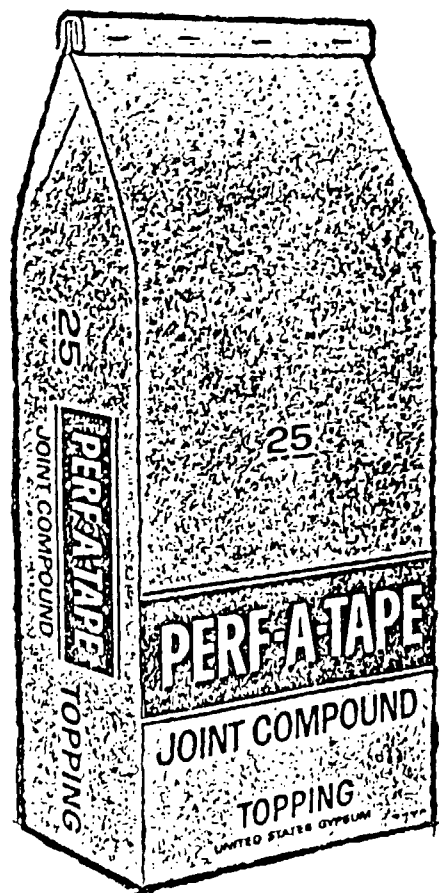
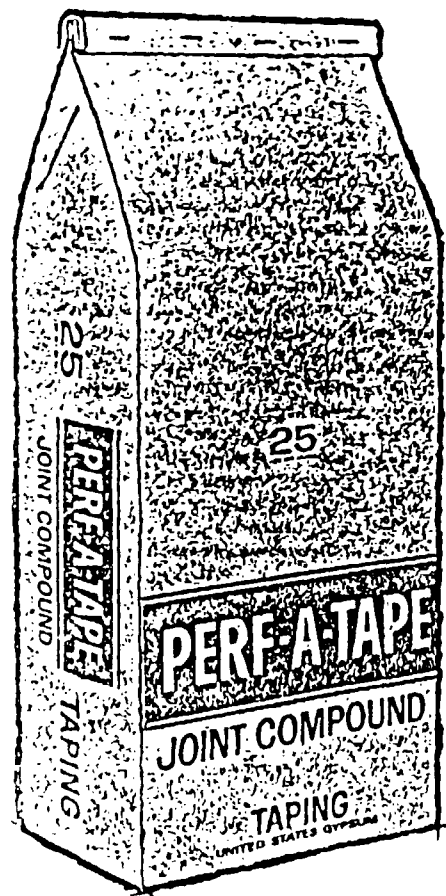
Superior Packaging is Only One Part of U.S.G. Superiority

GP043 0243

NEW NEW NEW NEW

LASTIC LINER IMPROVED SEALING COLOR CODING

The Rich Brown-color Bag Identifies PERF-A-TAPE* Joint Compounds, our Time Honored Standard of Excellence



BETTER BAGS

Still Filled With The
Same Fine Joint Compounds

COMING SOON...

A New Family Of
Joint Compounds
To Meet Your Needs
Even Better

UNITED STATES GYPSUM

USG Joint Compound—Topping
USG Joint Compound—All Purpose

MECHANICAL APPLICATION: The tap-tool is filled with DURABOND 90 and applied into the V formed by the rounded edges of the SUBSTRACK SW board.

As the applicator moves along the joint under pressure, it automatically fills the V and at the same time removes excess compound from the extremities of the V. When the applicator reaches the end of a run or if there is a malfunction, there may be some excess compound deposited in areas other than the V. It is important that this excess compound is removed, using a hand knife for the purpose.

The DURABOND 90 in the V is now allowed to harden and the entire joint treated in the normal manner, using the materials listed above in Method I.

For extra information on SUBSTRACK SW—the wallboard designed to give flatter, more level joints and to keep joint deformation at minimum, see U.S.G. form No. WB-929.

MECHANICAL TOOLS

Automatic Taper: Remove head plate and thoroughly clean upper plunger area. Use narrow, stiff bristle brush to clean head mechanism. Flush tube.

Hand Pump: Pump water through pump until clean. Remove bottom screen from pump and flush this area of the pump and the screen.

Flushing Boxes: Release plunger plate to simplify cleaning box.

Plungers incl. Corner Plunger—Corner Plunger: Flush with water until clean.

None of equipment is beyond our control and, therefore, United States Gypsum Company does not assume any responsibility for any loss or damage to equipment.

USE OF EQUIPMENT

In other crafts, applicators should keep tools and equipment clean and in good shape to secure maximum benefits.

DURABOND Joint Compound—Taping, and DURABOND 90 Joint Compound—Multi Purpose.

require that all tools, mixing containers, bread pans, etc., used for their application be thoroughly cleaned before compound hardening action occurs. Some applicators use pliable plastic mixing buckets and bread pans, and instead of scrubbing or wiping out the containers, they allow the DURABOND Joint Compound—Taping, to harden within these containers, then flex the sides and bottoms, making the entire contents drop out. The small amount of material left after this process can generally be easily flushed out with water. Containers must be thoroughly clean.

Particularly when mechanical tools are used, it is recommended that a conventional garden hose with nozzle be available to properly flush and clean DURABOND Joint Compound—Taping and DURABOND 90 Joint Compound—Multi Purpose from equipment before the hardening action takes place. Immersion of equipment in water will not prevent hardening of the compound.

PAINTING AND DECORATING

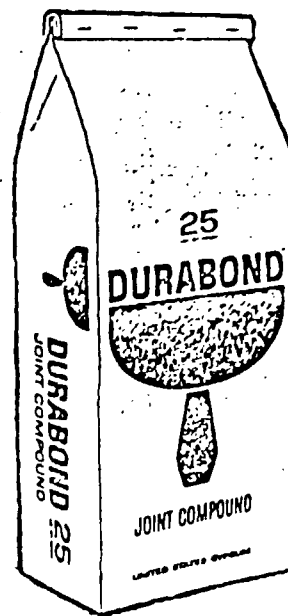
Painting and decorating directions prescribed by appropriate manufacturers should be strictly followed. If decorating problems arise, such manufacturers should be consulted.

GENERAL PROVISIONS

DURABOND, like other powder joint compounds, is affected by aging. Dealers and applicators should rotate stocks of DURABOND Joint Compound—Taping, DURABOND 90 Joint Compound—Multi Purpose, and DURABOND Joint Compound—Topping, and store them in dry places.

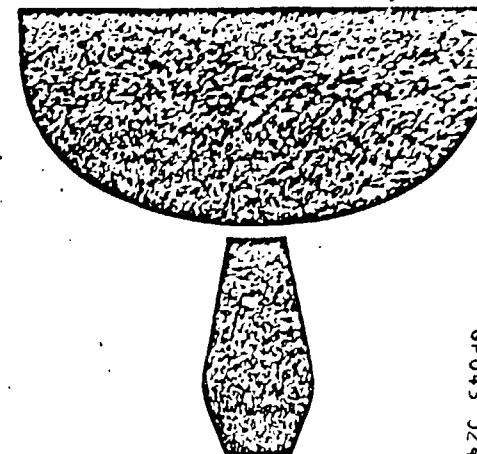
DISCLAIMER

Since methods and conditions of application and use are beyond the control of the United States Gypsum Company, its warranties of FITNESS and MERCHANTABILITY as well as any other warranties, express or implied, made in connection with the sale of this product, SHALL NOT BE EFFECTIVE OR ACTIONABLE UNLESS the product is applied according to United States Gypsum Company's directions and specifications.



DURABOND

Reg. U.S. Pat. Off.



UNITED STATES GYPSUM
 THE GREATEST NAME IN BUILDING

JOINT SYSTEM
 a product of UNITED STATES GYPSUM

USG Joint Compound--Topping or USG Joint Compound--All Purpose, at any time.

7. Also apply finish coat material chosen to nails, corner beads and interior angles, using a hand corner finishing tool. DURA-BOND Joint Compound--Taping, application must be completely covered by the topping compound selected.

B. Mechanical Tool Application

DURA-BOND Joint Compound--Taping can be satisfactorily used in mechanical tools, provided tight control is exercised in cleaning equipment. However, as application techniques using mechanical tools vary to meet conditions, individual jobs must be planned and scheduled in accordance with the hardening time of the compound.

1. Spot nail heads throughout entire house. Compound mixture to be heavy for this application. Observe hardening time precautions elsewhere on bag.
2. Mechanically tape all joints and angles in entire house. Both sides of angles are treated with corner finishing tools at this time.
3. Apply DURA-BOND Joint Compound--Taping, to all DUA-A-BEAD and use for applying PER-A-BEAD.
4. Immediately apply first fill coat of DURA-BOND Joint Compound--Taping with mechanical tools over all flat joints. This coat may be applied even though the first coat is still wet and unhardened.
5. Apply second coat to all nails. For less shrinkage, use material which is approximately one-half hour from final hardening time.
6. After all the DURA-BOND Joint Compound--Taping has hardened, apply the finish coat or final topping coat of DURA-BOND Joint Compound--Topping, USG Ready Mix Joint Compound--All Purpose; USG Joint Compound--Topping or USG Joint Compound--All Purpose over all joints, angles. Completely cover all DURA-BOND Joint Compound Taping with DURA-BOND Joint Compound--Topping, USG Ready Mix Joint Compound--All Purpose; USG Joint Compound--Topping or USG Joint Compound--All Purpose.

GENERAL APPLICATION-- DURABOND 90 JOINT COMPOUND--MULTI PURPOSE

The foregoing application directions for DURA-BOND Joint Compound--Taping, also pertain to DURA-BOND 90, bearing in mind that the faster hardening time of the DURA-BOND 90 demands faster techniques particularly in regard to mechanical tool application. The safe working period for DURA-BOND 90 in most machines will be generally less than one hour, so when DURA-BOND 90 is used,

all machines must be thoroughly cleaned out at least every hour, to prevent clogging and possible breakage.

Special Application--DURA-BOND 90 Joint Compound--Multi Purpose, used with SHEETROCK® SW Gypsum Wallboard as Pre-Fill

When DURA-BOND 90 is applied over SHEETROCK SW Board, two application methods are recommended: 1. By hand tools, 2. By a special type applicator, manufactured by Ames Drywall Products Company, 641 Old County Road, San Carlos, California. Ames has distribution points in most parts of the nation.

1. HAND TOOL METHOD: Use a flexible 5" or 6" Joint Finishing Knife and only fill in the V formed by the rounded edges of the SHEETROCK SW. Make certain that the viscosity of the DURA-BOND 90 is not heavy. Fourteen pints per 25 lbs. is our recommended water proportions; do not use less water.

Too-heavy consistency compound will tend to roll ahead of the knife and cause an extruding effect on the compound in the V, so that the extruded compound may swell slightly above the joint surface, and thus nullify the objective of the SHEETROCK SW board, which, of course, is to provide a flat and level joint, and to keep joint deformation at a minimum.

When the V is filled in its entirety, it is important that all excess compound is completely wiped off, so that the joint is now free of all but minor traces of compound, except in the V.

The DURA-BOND 90 in the V is now allowed to harden. Then the entire joint treated in the normal manner... that is, apply PER-A-TAPE® reinforcing tape with an embedding and fill coat, then second coat and final coat. Each preceding coat must be thoroughly dry before applying another coat.

The following materials are recommended in order of our preference for use as tape embedding and fill coat, and second coat:

DURA-BOND Joint Compound--Taping
USG Ready Mix Joint Compound--All Purpose
USG Joint Compound--Taping
USG Joint Compound--All Purpose
DURA-BOND 90 Joint Compound--Multi Purpose

For final coat the following are recommended, in order of preference:

DURA-BOND Joint Compound--Topping
USG Ready Mix Joint Compound--All Purpose

USG Joint Compound—Topping
USG Joint Compound—All Purpose

2. **MECHANICAL APPLICATION:** The tapping tool is filled with DURAROND 90 and applied into the V formed by the rounded edges of the SHEETROCK SW board.

As the applicator moves along the joint under pressure, it automatically fills the V and at the same time removes excess compound from the extremities of the V. When the applicator reaches the end of a run or if there is a malfunction, there may be some excess compound deposited in areas other than the V. It is important that this excess compound is removed, using a hand knife for the purpose.

The DURAROND 90 in the V is now allowed to harden and the entire joint treated in the normal manner, using the materials listed above in Method 1.

For extra information on SHEETROCK SW—the wallboard designed to give flatter, more level joints and to keep joint deformation at minimum, see U.S.G. form No. WB-929.

MECHANICAL TOOLS

- Automatic Taper:** Remove head plate and thoroughly clean upper plunger area. Use narrow, stiff bristle brush to clean head mechanism. Flush tube.
- Hand Pump:** Pump water through pump until clean. Remove bottom screen from pump and flush this area of the pump and the screen.
- Finishing Boxes:** Release plunger plate to simplify cleaning box.
- Others Incl. Corner Roller—Corner Finisher:** Flush with water until clean.

Care of equipment is beyond our control and, therefore, United States Gypsum Company cannot assume any responsibility for any loss or damage to equipment.

CARE OF EQUIPMENT

As with other crafts, applicators should keep tools and equipment clean and in good shape to secure maximum benefits.

DURAROND Joint Compound—Taping, and DURAROND 90 Joint Compound—Multi Purpose,

require that all tools, mixing containers, bread pans, etc., used for their application be thoroughly cleaned before compound hardening action occurs. Some applicators use pliable plastic mixing buckets and bread pans, and instead of scrubbing or wiping out the containers, they allow the DURAROND Joint Compound—Taping, to harden within these containers, then flex the sides and bottoms, making the entire contents drop out. The small amount of material left after this process can generally be easily flushed out with water. Containers must be thoroughly clean.

Particularly when mechanical tools are used, it is recommended that a conventional garden hose with nozzle be available to properly flush and clean DURAROND Joint Compound—Taping and DURAROND 90 Joint Compound—Multi Purpose from equipment before the hardening action takes place. Immersion of equipment in water will not prevent hardening of the compound.

PAINTING AND DECORATING

Painting and decorating directions prescribed by appropriate manufacturers should be strictly followed. If decorating problems arise, such manufacturers should be consulted.

GENERAL PROVISIONS

DURAROND, like other powder joint compounds, is affected by aging. Dealers and applicators should rotate stocks of DURAROND Joint Compound—Taping, DURAROND 90 Joint Compound—Multi Purpose, and DURAROND Joint Compound—Topping, and store them in dry places.

DISCLAIMER

Since methods and conditions of application and use are beyond the control of the United States Gypsum Company, its warranties of FITNESS and MERCHANTABILITY as well as any other warranties, express or implied, made in connection with the sale of this product, SHALL NOT BE EFFECTIVE OR ACTIONABLE UNLESS the product is applied according to United States Gypsum Company's directions and specifications.

CP043 0247

PERF-A-TAPE Joint Systems

A Group of Well Established, Phosphoprotein (casein-type) Joint Treatment Powder Formulations

PERF-A-TAPE JOINT COMPOUND —Taping (for embedding)

PERF-A-TAPE JOINT COMPOUND —Topping (for finishing)

PERF-A-TAPE JOINT COMPOUND —All Purpose (for embedding, finishing, texturing, etc.)

For quality drywall work, certain essentials are required. Principally, of course, the mechanic must have inherent skill and he must know the correct procedures and products to use. He must also know that these products are the best available, for his joint treatment operation. Such products are the components which make up the PERF-A-TAPE Joint System.

QUALITIES OF A GOOD TAPING COMPOUND (EMBEDDING TYPE)

It is possible to manufacture a joint compound which will be reasonably satisfactory for nearly all phases of drywall joint application. PERF-A-TAPE All Purpose powder is a typical example and as good as, if not better than, any on the market. However, in the manufacture of so-called "triple-purpose, 3-purpose or all-purpose" powders, a compromise must be reached; some desirable properties of both embedding and finishing qualities are usually compromised and the end result is a product which is not designed for any principal purpose, and therefore, cannot be expected to give the outstanding quality results one looks for in a material produced with a single and definite objective in mind.

PERF-A-TAPE Joint Compound—Taping, as manufactured by United States Gypsum, has an essential and solitary function to perform . . . embedding. It is designed and produced with this function in mind, that is—to bond tape firmly to the wallboard and to strongly reinforce the joint.

This compound has the following major characteristics:

- Easy mixing
- Smooth working
- Ample working time
- Outstanding bond
- Maximum resistance to tape edge cracking
- No alkali burning of paint
- Several days wet-mix life
- Cohesion to avoid droppings
- Controlled minimum shrinkage

QUALITIES OF A GOOD TOPPING COMPOUND

A topping compound must be manufactured to give superior finishing results. No serious compromise should be instituted, under any circumstances, because the topping coat is the final step in the drywall applicator's effort. The successful appearance of the job, prior to decorating, depends on the proper formulation and the specific design of the topping compound.

PERF-A-TAPE Joint Compound—Topping, as manufactured by United States Gypsum, has an essential and solitary function to perform—finishing. It is designed and produced with this function in mind, and consequently is a superior quality material containing outstanding finishing properties.

This compound has the following major characteristics:

Easy mixing	Easy sanding
Extremely smooth working	Several days wet-mix life
Ample working time	Controlled, low shrinkage
Satisfactory bond	Excellent feathering
No alkali burning of paint	

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QUALITIES OF A GOOD ALL-PURPOSE COMPOUND

An all purpose compound is designed principally for the convenience of contractors and mechanics, who are reluctant to concern themselves with two separately bagged products on one job.

Although any all purpose product compromises to some degree in embedding and/or topping characteristics, it will nevertheless do an adequate, although not superior, job of embedding, topping and texturing.

PERF-A-TAPE Joint Compound—All Purpose, possesses the following major characteristics:

Easy mixing	No alkali burning of paint
Smooth working	Relatively easy to sand
Ample working time	Several days wet-mix life
Satisfactory bond	Relatively low shrinkage
Very suitable for texturing, spray coating or skim coating	
Satisfactory tape-edge crack resistance	

HOW TO GET BEST RESULTS WITH PERF-A-TAPE JOINT COMPOUNDS

MIXING OF JOINT COMPOUNDS:

Use a clean mixing container and pour clean drinkable water into it, following water proportions in accordance with bag directions.

Add the powder to water, sifting carefully to minimize compression lumps, and speed dispersion. Stir vigorously for 2-3 minutes, until all the powder is uniformly damp, and lump free. Set this initial mix aside and let it soak for at least 30 minutes (longer if the powder or water temperature is low). Virtually all casein-type formulations will require this mixture soaking time.

This soaking period allows all the chemical ingredients in the compound to go into solution, and it is important that full soaking period be carried out, otherwise the chemicals will be trying to go into solution when the compound is on the joint—a most undesirable situation.

DO NOT OVER-THIN COMPOUND WITH WATER. Excess water will not speed up the soaking period nor hasten the solution time of the ingredients; instead it will tend to encourage excessive or delayed shrinkage, and sometimes even bond failure.

USG Joint System

A Group of New Non-Phosphoprotein-bound, Polymeric Joint Treatment Powder Formulations for those who demand the very finest in powder. A new family of Superior formulations that mix faster, stay mixed better, apply smoother, better.

Choose from: USG JOINT COMPOUNDS Taping-Topping-All Purpose

Virtually all current "drying"-type joint compounds employ casein as a basic ingredient. The United States Gypsum standard of excellence, PERF-A-TAPE® Joint Compounds, are examples of such casein-based formulations. Over the years, PERF-A-TAPE Compounds have been carefully developed and refined to a high level of quality and performance, to which thousands of drywall mechanics can testify.

However, all casein-based joint compounds do have certain limitations built into their formulations. Caseins go into solution slowly, particularly in cold weather. This is why U.S.G. specifies a minimum of 30 minutes wait after initial mixing before use. All casein-type compounds have only moderate wet-mix stability. Water and pigment tend to separate during the hours following mixing. This necessitates constant adjustments to the mix by the mechanic.

These troublesome and time-consuming extra steps are characteristic of all casein-type compounds. Casein-type mixtures also have a distinct odor, particularly after standing, which can be very annoying to the applicator working in hot, humid enclosed rooms.

USG® brand Joint Compounds, the new group of non-casein formulations from United States Gypsum, have replaced caseins with certain advanced chemicals that build in a variety of superior performance characteristics. And while virtually all the desirable features of conventional, casein-type formulations such as PERF-A-TAPE Compound are retained, USG Compounds make available even closer quality control in manufacturing, that means even greater consistency on the job. In addition

GP043 0249

Extensive wet mix life
Controlled low shrinkage
No alkali burning of paint

USG JOINT COMPOUND-TAPING

This product is designed principally to embed PERF-A-TAPE reinforcing tape; also for fill coats. (It is not recommended for final coats). It may also be used for first and second coats over nails, and drywall metal corner beads and trim.

In addition to the basic advantages of all USG Joint Compound Products, USG Joint Compound-Taping, has the following major characteristics to provide benefits of convenience, time-saving and satisfaction:

Outstanding bond when dry
Maximum resistance to tape cracking

USG JOINT COMPOUND-TOPPING

This product is designed and formulated to give superior finishing results, when used over USG Joint Compound-Taping for finishing or for fill and finishing.

In addition to the basic advantages of all USG Joint Compound Products, USG Joint Compound-Topping, possesses the following major characteristics to produce satisfaction, convenience and time saving benefits:

Extremely smooth working
Excellent feathering
Easy sanding

USG JOINT COMPOUND-ALL PURPOSE

This product is a compromise on the two bag system, and incorporates some very good topping and taping characteristics. However, if outstanding taping and topping results are prerequisite on a job, then products specifically designed from these two separate functions will give better results.

USG Joint Compound-All Purpose, may be used for embedding PERF-A-TAPE reinforcement, concealing of fasteners and metal corner bead. It may also be used for leveling and finishing coats, as well as for simple textures.

In addition to the basic advantages of all USG Joint Compound Products, USG Joint Compound-All Purpose contains the following benefits:

Satisfactory bond
Good feathering
Satisfactory sanding
Good texturing properties

COLD WEATHER REACTIONS AND PRECAUTIONS

USG Joint Compounds are relatively free from many of the major problems which trouble caseins used during cold spells.

For example, when water and/or powder temperatures are low, casein compounds may take an hour or more to go into solution. Lumping is also a problem and "salt and pepper" spots—undissolved ingredients—are often seen on the joints.

The "new" USG Joint Compounds can still be mixed and used virtually immediately, irrespective of powder and water temperature, provided of course, these temperatures are at least 5° F above freezing. The danger of compounds freezing on jointed walls and ceilings of unheated buildings remains, of course.

Therefore, during and after joint compound applications, a minimum controlled air temperature of 55°-60° F must be maintained at all times within the working area until material is dry, decorated, and building is occupied.

Widely fluctuating temperatures (more than 15° F variation) should be avoided.

WARM WEATHER REACTIONS AND PRECAUTIONS

Warm weather will not seriously affect the new USG® Joint Compounds.

Since there will be no "watering down" tendency, the consistency will remain the same hour after hour, provided there is no appreciable evaporation.

Severe evaporation may cause some stiffening, but this can be easily overcome by slight water additions (never more than 1 pint per 25 lbs. compound).

A slight stiffening tendency of the Joint Compound may be noticed if they are applied over very warm wallboard surfaces.

This can be minimized by trying to shade wallboard surfaces from direct sunlight. However, since this is not always practical, the mechanic will at least understand the reason for the abnormal stiffening of the compound and can compensate for it where possible.

The working time of the USG Joint Compound line is very good, but very high temperatures accompanied by low humidity and hot breezes may cause abnormally rapid drying just as is the case with casein compounds.

Rapid drying can be recognized, because in areas subjected to these hot dry conditions, (especially heavy fill areas) the compound tends to show small hair line, random cracks as it dries. Also, "stiffening" difficulty may be experienced in running feathered edges and where one joint crosses another.

GP043 0250

edges of the tape. If necessary, use extra compound for this purpose to form a skim coat of joint compound over the entire surface of the embedded tape, and about one inch beyond the tape edges, feathering the extremities of the application.

The entire tape and particularly the edges must be sandwiched between two very thin layers of compound, at this stage, to prevent tape edge cracking.

At least 24 hours later, (longer if drying conditions are poor), apply the second coat over the completely dry first coat, feathering at least one and one-half inches beyond the edges of the first coat.

USG® Joint Compound-Taping, or Topping, or All Purpose, may be utilized for the second coat and it is recommended that increasingly wider joint finishing tools be used from this stage on.

When second coat is thoroughly dry, sand lightly and proceed with final coat. USG® Joint Compound-Topping, or All Purpose, should be used for final coat. Apply it very thinly with strong knife pressure over previous coat, feathering out at least two inches beyond each edge.

Sand lightly and dust off; when dry it will be ready for decoration.

NOTE: Normally, the printed side of PER-A-TAPE reinforcing tape should be towards the applicator during tape embedding operations, but should circumstances make it more convenient for the tape to be embedded in the reverse position, the bonding strength is not seriously impaired, provided it is embedded and covered as recommended.

SHEETROCK SW WALLBOARD FOR TROUBLE-FREE JOINTS

United States Gypsum has a special type gypsum wallboard designed to minimize all joint deformations, particularly joint ridging. The finished joints obtained with this SHEETROCK SW Gypsum Wallboard, are flatter and more level than those obtained with regular gypsum wallboard.

SHEETROCK SW has rounded edges in the tapered areas instead of conventional square edges.

For best results, a special type of compound—DURABOND 90, should be used to fill only the V formed by the rounded edges, and allowed to "harden" before normal taping with USG Joint Compound begins.

Following this pre-fill step, conventional taping and finishing of the joints is done as previously outlined. DURABOND 90 may also be used for tape embedding and first fill coats, if desired. (For complete information on SHEETROCK SW and DURABOND 90 see USG literature pieces WB-929 and J-17.)

END JOINTS

End or butt joints are treated in much the same way as tapered edge joints. However, because there are no tapered edges, the USG® Joint Compound-Taping, and All Purpose, must be built up carefully during tape embedding operations, and greater care must be taken to assure $\frac{1}{4}$ " to $\frac{1}{2}$ " of compound below the tape.

Again, the PER-A-TAPE reinforcing tape must be sandwiched with compound by following back immediately over the embedded tape with a skim coat.

Subsequent second coat, and third coat should be applied over thoroughly dry areas as recommended in the preceding Tapered Joints section, except that each coat should be feathered out farther—skim coat approximately half to one inch more, second coat one to two inches more, and final at least two inches more. Total application width should be 14 to 18 inches approximately.

Always keep center build up on any type of joint as low as possible. A high crown encourages ridging, and sometimes gives shadowed areas.

ANGLES

Coat both sides of the interior angles with USG Joint Compound-Taping, or USG Joint Compound-All Purpose, making certain that the coating extends over one and one half inches on each side of the angle, and that there are no areas lacking compound. Use either a joint finishing knife or USG Corner Tool for the operation.

Fold the tape along its center crease, and position it in the angle. Press each side of the tape alternately, with the USG Square Blade Joint Finishing Knife, or use the USG Corner Tool, so that compound is squeezed from both edges of tape. Be certain that the excess compound "sandwiches" the tape edges above and below, and feathers out compound about two inches from tape edges. Allow to dry thoroughly.

If the second coat is going to also be the final coat, then either USG Joint Compound-Topping, or USG Joint Compound-All Purpose, must be used.

For high quality work, three coats are recommended and required, in which case the second coat application is best carried out using USG Joint Compound-Taping, or USG Joint Compound-All Purpose; but USG Joint Compound-Topping, will also suffice.

The second coat may be applied with the USG Corner Tool so that both sides of the angle are coated at the same time, using the blade tip and narrowing application to one and one-half inches on either side of corner to prevent compound squeezing beyond edges of tool.

For lower part of corner, the Corner Tool should be reversed and moved upwards from the floor.

Alternately, the USG Square Blade Joint Finishing Knife may be used for taping angles. Some applicators will second-coat both sides of an angle at the same time, feathering out the compound on each side of the tape to a distance of one and one-half inch. Other applicators will second-coat and feather out one side only of an angle at a time. When one side is dry, they return and repeat the operation on the other side. USG Joint Compounds will work satisfactorily with either of these methods.

Third coat application where necessary is completed in the same fashion as the second coat, feathering out further. USG Joint Compound-Topping, or USG Joint Compound-All Purpose, must be used; and of course, previous coats must be thoroughly dry before attempting final coat.

Use minimum amount of compound at the apex of angles to prevent "craze" or "alligator" cracking.

Final coat is sanded lightly, when dry, and is then ready for decoration.

For more detailed information on the USG Corner Tool, see USG literature piece J-6.

MECHANICAL TOOLS

Tool techniques vary in different areas where mechanical tools are used; and for the best results, the recommendations of the tool manufacturers should be followed.

In any event, with the exception of tools and tool techniques, the same product specifications, recommendations, and limitations discussed under "Application Procedures" generally apply.

GENERAL PROVISIONS

It is an excellent idea to check all gypsum wallboard surfaces before commencing to use USG Joint Compounds.

Gypsum wallboard must be FIRMLY attached to framing members, and paper-cutting by nails, screws and other fasteners must be at a minimum.

Every board should form a true alignment where a joint is formed. For example, when one board is higher than the one alongside, where a tapered edge is placed adjacent to a non-tapered edge, or where one edge is crushed, it is often difficult to leave sufficient compound under the tape in the high board area. Blisters, short beads, bond failures, cracks and lumps often form in such areas.

"Green," wet or damp framing can cause warping, cracking, nail or screw "pops" cracking and ridging.

Gypsum board edges or ends should be allowed to abut normally, without being forced.

Open spaces between boards of $\frac{1}{4}$ " or more should be filled with a heavy consistency compound at least 24 hours prior to embedding tape. If DURABOND 90 (see USG literature piece J-17), a special fast-hardening type prefiller, is used to fill spaces—then, of course, a 24-hour wait is not necessary.

PERF-A-TAPE Joint Reinforcement For Gypsum Drywall Construction Spark-perforated for more perfect embedding

BACKGROUND OF DRYWALL JOINT TREATMENT

Gypsum Drywall construction as we know it has its roots in construction during World War I. It began with the introduction of SACKETT® Plaster board, followed shortly by the industry standard of excellence, SHEETROCK® Gypsum Wallboard, and more gradually by many related materials and techniques—drywall systems—pioneered by United States Gypsum. Customer preference for monolithic wall surfaces continued, which led to developing methods of reinforcing and concealment of joints formed by the abutting edges of wallboard panels.

At first Plaster of Paris was applied direct as a primitive joint treatment, but joint failures were the rule rather than exception.

United States Gypsum began its continuing program of research and development of joint treatment products and methods that continue to this day. During the early 1920's, the first joint compounds were made available by U.S.G., and with the introduction of the U.S.G. reinforced joint system, the first complete joint treatment "package" was offered to the trade.

Cloth Mesh Tape, the first reinforcing tape, was combined with existing U.S.G. joint compounds. But the deficiencies of the cotton gauze-like reinforcement led quickly to the introduction of punched zinc metal tape that featured exceptional strength. While Metal "A" Tape enjoyed considerable popularity, it was simply too expensive and hard to apply, to survive.

The year 1937 marked a major milestone in joint treatment progress, with the introduction of the PERF-A-TAPE joint system, based on new paper reinforcing tape.

Paper used in manufacturing PERF-A-TAPE reinforcing tape has cross fibers built in, for strength and stability. It is treated with fortifying additives

that further improve strength, especially wet strength. PERF-A-TAPE is actually stronger than its minimum specified tensile strength of 30 lbs. per inch. It resists stretching, puckering or other distortions so that it remains flat and fights accidental tearing during embedding. Used with recommended joint compounds, there is no better way to reinforce and conceal drywall joints—or make repairs.

All joint tape is perforated, to release air entrapped under tape as it is embedded, and to speed drying. Without perforations, tape would develop blisters and not properly bond to board. PERF-A-TAPE Reinforcement was originally mechanically punched, but these relatively large holes sometimes "photograph" or show through joint compound and subsequent decorative materials.

In 1945 U.S.G. introduced and patented the obviously needed, better method of perforating: spark perforated tape. Spark perforated reinforcing tape is still a U.S.G. exclusive. Tiny spark perforations allow air to release from under the tape as it's applied, but are so small they do not show in the finished job.

Tape shape is another important factor in producing a better joint treatment tape. Conceivably, joint tape could be made with a taper that exactly matched the taper of the board it's going over. In practice this is not needed, nor always desirable. PERF-A-TAPE Reinforcement has a controlled taper across its width. It is about 1/100th inch thick at the center, tapering to about half that thickness at the edges. This is achieved by a series of precision milling operations that also give "tooth" to the surface. Controlled roughening improves compound adhesion. The machine-made taper reduces wrinkling or curling that can lead to edge cracking. You get a flatter, smoother, more durable and trouble free treated joint.

PERF-A-TAPE is ironed for smoothness and factory creased for easier application of tape to inside corners. Tape width is controlled within 1/64th inch to assure smooth feeding from mechanical tools. Moisture content is also controlled.

The dimensional change of PERF-A-TAPE reinforcing tape as manufactured, is less than 1.0% lengthwise after the tape is wetted and redried. This exceptional stability helps assure consistent fine results.

PERF-A-TAPE spark perforated reinforcing tape conforms to ASTM Designation C474-64, A.S.A. requirements A97.1-1958, UDC 691.31 and Federal Specifications SS-J-570A, Type II (GSA-FSS).

APPLICATION—HAND TOOL

Tapered Edges—Using a joint knife, butter joint compound approved for "Taping" (embedding) into the channel formed by adjoining tapered edges of gypsum wallboard, filling channel fully and evenly, but avoiding heavy fill. The edge taper on SHEETROCK gypsum wallboard is precision made—not too deep and not too shallow—to insure that the correct amount of compound is deposited into the channel.

Now, immediately center and apply PERF-A-TAPE reinforcing tape into the channel. Press the tape down into the fresh compound with a drywall knife, by holding the knife at an angle of approximately 45° to the board. Draw knife along joint using sufficient pressure to squeeze some compound from edges of tape, yet leaving enough for sufficient bond. As a guide, there should be 1/4" to 1/2" compound under the tape.

Make absolutely certain that the excess compound, squeezed from under the tape edges, is now spread on the outer surface of the tape. If necessary, add extra compound onto the taped joint.

As soon as the tape is fully embedded, a further thin or "skim" coat of joint compound is applied over and about one inch beyond tape edges, feathering out smoothly. The tape edges must be sandwiched between two very thin layers of joint compound at this stage, to reduce the chance of edge cracking.

Now, allow the taped joint to thoroughly dry before applying the next coat of compound—at least 24 hours—longer if drying conditions are poor.

SW Edges—Use a flexible 5 in. or 6 in. Joint Finishing Knife and prefill with DURABOND® 90 Joint Compound—Multi Purpose, only in the "V" formed by the rounded, eased edges of the SHEETROCK SW board. Once the prefill compound has hardened, the balance of the joint work proceeds in a conventional manner. (See U.S.G. technical literature piece #J-49 regarding special instructions for using DURABOND 90 Joint Compound—Multi Purpose.)

APPLICATION— MECHANICAL TOOLS

Tapered Edges—For best results, the recommendations of the tool manufacturer should be followed.

It is important that the PERF-A-TAPE reinforcing tape is centered in the middle of a joint, tapered at end joint of board, and that there is applied about 1/4" to 1/2" of joint compound under the tape.

Any excess compound squeezed from under the edges of the tape should be leveled on the outer surface and the edges of the tape, even if this involves a hand application and the use of extra compound. The tape must be sandwiched between two very thin layers of compound.

Leave the tapered joint until thoroughly dry before proceeding with subsequent coats.

Where surfaces intersect, such as wall-to-ceiling, it is important that any type of machine used at these intersections extrudes sufficient compound on each side of the corner so that the PERF-A-TAPE reinforcing tape is firmly embedded.

The taping machine must fold tape being embedded so both sides of this folded tape are applied in firm contact with intersecting wallboard surfaces.

When the tape is completely sandwiched between two very thin layers of joint compound, with an absolute minimum of compound at the intersection, the entire angle is left to dry thoroughly before proceeding with the next operation.

SW Edges—Use a special type applicator, manufactured by Ames Drywall Products Company, 141 Old Country Road, San Carlos, California. It automatically prefills the "V" formed by the rounded, eased edges of the SHEETROCK SW board. Once the prefill has hardened, the balance of the joint work proceeds in a conventional manner.

For information on the subsequent steps toward finishing the joint work, consult your U.S.G. representative or U.S.G. literature pieces J-9, J-60, J-17, and J-47.

QUANTITIES

PERF-A-TAPE reinforcing tape is available in the following sizes:

60 ft. Roll—Ideal for the occasional, small drywall job, for patching work, etc.

250 ft. Roll—The popular size for hand application joint treatment. Handy to carry around—weighs less than 1 1/4 lbs.

GP043 0252

the DURABOND Joint System

a group of "one-day," Polyindurate (extremely hard)
joint treatment powder formulations

DURABOND Joint System consists of DURABOND Joint Compound—Taping, a hardening type material for the embedding and fill coats; DURABOND Joint Compound—Topping, or USG® Ready Mix Joint Compound—All Purpose, drying type materials, for the finishing coat, and DURABOND 90 Joint Compound—Multi Purpose, for special application.

WHAT IS DURABOND 90 JOINT COMPOUND—MULTI PURPOSE?

DURABOND Joint Compound with a hardening time approximately half that of regular DURABOND Joint Compound—Taping.

DURABOND 90 Joint Compound—Multi Purpose is used in exactly the same manner as regular DURABOND Joint Compound—Taping, with the same benefits except that provisions will have to be made to accommodate the faster hardening time. DURABOND 90 is the product specified by United States Gypsum for use as a pre-fill or first coat over joints of SHEETROCK® SW Gypsum Wallboard.

In addition, DURABOND 90 is recommended for areas of heavy fill such as unusual gaps, holes, low joints, nails or other areas of repair work where a faster hardening time is a distinct asset.

WHY DURABOND JOINT SYSTEM IS DISTINCTIVE

The key products are DURABOND Joint Compound—Taping, and DURABOND 90 Joint Compound—Multi Purpose—hardening type materials which achieve appreciably higher strengths than conventional compounds such as PERMA-TAPE® or USG brand compounds, and are used essentially for the embedding and fill coat operations.

DURABOND Joint Compound—Taping, DURABOND 90 Joint Compound—Multi Purpose and DURABOND Joint Compound—Topping, are formulated to work well with each other, and are completely compatible.

- On a properly scheduled job, the gypsum wallboard and accessories can be taped, filled and finished—all in one day; or, if desired, the DURABOND products can be used as a two or more day system.
- The DURABOND Joint System incorporates all the qualities desired in good joint compounds, such as the following:

Ample Working Time
Good Bond
Easy Mixing
Minimum Shrinkage
Smooth Working
Maximum Resistance to Edge Cracks
Easy Sanding of Finishing Coat
Controlled Hardening of DURABOND Joint Compound
Cohesion to Avoid Droppings
No Alkali Burning of Paint

But, in addition, DURABOND Joint System provides particularly outstanding performance in . . .

BONDING STRENGTH: DURABOND Joint Compound—Taping's bond actually increases to its maximum as it dries. Once hardened and dry, the bond of DURABOND Joint Compound—Taping, surpasses that of conventional drying type embedding compounds.

MIXING ABILITY: DURABOND Joint Compound—Taping, DURABOND Joint Compound—Topping, and DURABOND 90 Joint Compound—Multi Purpose are easily mixed products. Just add to water and stir into solution. The mix may then be applied immediately. Another asset which is quite unique and not possessed by the usual jointing materials, are DURABOND Joint Compound—Taping and DURABOND 90 Joint Compound—Multi Purpose's somewhat indifference to water proportions. We suggest certain water amounts for best results, but if some slight deviations are made, this is not at all critical because these two joint compounds will still harden at much their same rate. There will be no appreciable increase in shrinkage from minor

amounts of extra water, and you will still be able to finish over the hardened joint with no time loss.

SHRINKAGE: Unlike conventional drying type compounds, the shrinkage of DURABOND Joint Compound—Taping and DURABOND 90 Joint Compound—Multi Purpose are extremely low and are therefore, ideal for heavy fills. These two joint compounds permit no delayed shrinkage once the hardening is established; however, conventional shrinkage may result if either of these two joint compounds is allowed to dry out before it hardens. This condition usually results when dry winds are allowed to blow directly on to the unhardened joints.

RESISTANCE TO HUMIDITY: DURABOND Joint Compound—Taping, and DURABOND 90 Joint Compound—Multi Purpose are chemically controlled. The rate of hardening is virtually unaffected by changes in humidity, or high humidity.

EDGE CRACK RESISTANCE: DURABOND Joint Compound—Taping and DURABOND 90 Joint Compound—Multi Purpose have excellent resistance to edge cracking; are virtually equal to USG® Ready Mix Joint Compound—All Purpose, in this respect.

SANDING ABILITY: Easy sanding is a most desirable property for a finish coat. DURABOND Joint Compound—Topping, sands so easily that many drywall contractors will use a sandpaper of a finer grade than normal and obtain a smoother, scratch-free finish with less effort.

So the DURABOND System has these distinctly superior features and benefits compared to other Joint Systems:

- Because it mixes easily and can be used immediately, there are savings in time and labor.
- Because it shrinks less, there are further savings in material, time and labor.
- Because the compound is not dependent on perfect drying conditions, there are more savings in time and labor.
- Because the topping compound sands in a superior fashion, there are yet more savings in time and labor.

PREPARING MIX FOR APPLICATION

DURABOND JOINT COMPOUND—TAPING

Mix in a clean 5-gallon container. Sift the powder into drinkable water, using quantities shown below:

	Each 25 lbs.
1. Hand Tool Application	13 to 14 pints
2. Mechanical Taping Devices	17 to 18 pints
3. Mechanical Fill Coat Devices	15 to 16 pints

Stir rather vigorously for no more than 3 minutes, making sure all the compound is uniformly damp. If any lumps are present, allow the mix to soak for a minute or two. Remix the compound until smooth, and it is ready for use.

Do not allow the compound to be contaminated with any other material, especially other type joint compounds, or with dirty water (such as used for cleaning tools), or even fragments or suspensions of previously mixed DURABOND compounds. Do not intermix with previously prepared DURABOND Joint Compound—Taping.

The quantity of DURABOND Joint Compound—Taping to be mixed should never exceed that which can be used easily within the hardening time period following the mix. (This is usually about three hours, unless otherwise stated on the bag.) DURABOND 90 hardens in about 1½ hours. Therefore, mix enough DURABOND Joint Compound—Taping, to last 2 hours, enough DURABOND 90 to last 1 hour. This gives some leeway.

The compound will harden chemically even under water, so do not attempt to hold in wet mix or immerse DURABOND Joint Compound—Taping coated tools in water in an attempt to hold back hardening.

DURABOND Joint Compound—Taping and DURABOND 90 Joint Compound—Multi Purpose, perform well under most drying conditions. These hardening formulations will work satisfactorily under some weather conditions which would cause failure to conventional compounds. The chemical hardening action is unaffected by conditions of high humidity, and although low air and/or wall temperatures of approximately 40° to 55° F. may affect DURABOND Joint Compound's initial bond, once heat is applied and the taped joint dried, bond will generally return to a satisfactory level. However, it is still our recommendation that minimum air and wall temperature of 55° F. be maintained at all times.

This gives applicators an extra margin of safety, should the room temperatures accidentally drop into the lower temperature range after DURABOND Joint Compound—Taping, has been applied in 55° temperatures or above. This extra safety factor should not be deliberately abused by applying DURABOND Joint Compound—Taping, in temperatures under 55° F.

Too rapid drying on conventional compounds (especially heavy fills) causes severe shrinkage and cracking. Rapid drying has no effect on DURABOND Joint Compound—Taping or DURABOND 90 Joint Compound—Multi Purpose, once it is hardened; but if it dries before hardening, conventional shrinkage may occur.

Applicators will recognize fast drying conditions, because the compound takes on a shorter working

be soaking period, give the mix a further stir to bring it to a creamy smooth consistency, ready for use.

It is important that the mixing man aims at heavy consistency at the end of the soaking for then he can add clean water, to bring it to its required consistency. If he aims at a "soupy" consistency and then has to add powder, he must wait another 30 minutes, at least, to allow the added powder to go into solution.

WEATHER PRECAUTIONS

If the water is cold or if the dry powder has stored in temperatures below 55°F. just prior to mixing, then the wet mixture temperature will be correspondingly low.

Under such conditions, mixing will be somewhat slower, solution rate (soaking time) will be considerably longer, and the mixture may tend to be heavy and grainy.

GENERAL CONSIDERATIONS

Joint board edges or ends should be allowed to settle normally, without being forced together, yet should not be spaced too far apart.

Spaces between boards of 1/4" or more should be filled with a heavy consistency compound at 24 hours prior to embedding tape.

Compounds are affected by aging, therefore, users and Applicators should rotate stocks and material in dry places. PERF-A-TAPE Joint Compounds are not affected by freezing temperatures in their powder state, but they will give best results if brought to a temperature of 70°F. just prior to using, by storing in a heated area. Obviously, cold powders when mixed with water will lower the water temperature.

PERF-A-TAPE Joint Compounds described in literature piece use casein as an ingredient. Casein compounds manufactured by United States Gypsum are compatible with each other, although we do not recommend inter-mixing. However, their compatibility is such that should an applicator, for example, decide to embed with All Purpose and then with Topping or Embed with Taping and then with All Purpose no adverse effect due to incompatibility will result.

CAUTION: VERY UNSATISFACTORY RESULTS MAY OCCUR IF COMPOUNDS NOT MANUFACTURED BY U.S.G. MANUFACTURE, OR COMPOUNDS CONTAINING NO CASEINS (INCLUDING USG® BRAND JOINT COMPOUNDS) ARE USED IN CONJUNCTION WITH PERF-A-TAPE JOINT COMPOUNDS. AS A GUIDE, ALL PRODUCTS USING THE TRADE MARK "PERF-A-TAPE" ARE COMPATIBLE WITH EACH OTHER.

TEXTURING

Many Drywall applicators will use PERF-A-TAPE Joint Compounds, especially All Purpose Compound, as texturing materials or as a thin coat finish; with very satisfactory results. Light to medium textures are readily obtained, usually without further additions being necessary. Where paint or other similar additions are desired for tinting, etc., consult the appropriate paint manufacturer. In some areas, coarse textures, too, can be accomplished without too much manipulation, but in this latter instance, we would recommend that a local U.S.G. representative be contacted for advice.

Where spray textures are desired with PERF-A-TAPE Joint Compounds, most spray machine manufacturers can furnish pressure, nozzle, water settings, etc., or other relevant information.

PAINTING AND DECORATING

Painting and decorating directions prescribed by appropriate manufacturers should be strictly followed. If decorating problems arise, such manufacturers should be consulted.

BEFORE, DURING AND AFTER PERF-A-TAPE JOINT SYSTEM APPLICATION, A CONTROLLED MINIMUM TEMPERATURE OF 55°-60°F. MUST BE MAINTAINED AT ALL TIMES WITHIN THE WORKING AREA UNTIL MATERIAL IS DRY AND DECORATED. WIDELY FLUCTUATING TEMPERATURES (MORE THAN 15°F. VARIATION) SHOULD BE AVOIDED.

COMPLIANCE WITH FEDERAL GOVERNMENT SPECIFICATIONS & A.S.T.M. DESIGNATIONS

PERF-A-TAPE Joint Compound will meet A.S.T.M. Designation C 475-64, A.S.A. requirements A 97.1-1958 and Federal Specifications SS-J-870A (GSA-FSS).

DISCLAIMER

Since methods and conditions of application and use are beyond the control of the United States Gypsum Company, its warranties of FITNESS and MERCHANTABILITY as well as any other warranties, express or implied, made in connection with the sale of these products SHALL NOT BE EFFECTIVE OR ACTIONABLE UNLESS the products are applied according to United States Gypsum Company's directions and specifications.

UNITED STATES GYPSUM
THE GREATEST NAME IN BUILDING

JOINT SYSTEM

a product of UNITED STATES GYPSUM

PERF-A-TAPE