

TECHNICAL BULLETIN

**KAISER
GYPSUM**

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WALLBOARD ACCESSORIES - JOINT TREATMENT PRODUCTS
JOB PROBLEMS AND REMEDIES

Successful joint treatment of gypsum wallboard surfaces requires particular attention to proper mixing instructions, weather conditions, and job application techniques.

MIXING INSTRUCTIONS

When the recommended mixing procedure for dry powder compounds is not followed, potential problems which may result include:

1. Poor Bond

This may occur because of incomplete solution of binders or nonuniform dispersion of the powder.

2. Mealiness

The condition described as mealiness often is the result of thinning out or letting down after mixing. This can be avoided by allowing the natural thinning which occurs when the powder dissolves to take place before final dilution to working consistency.

3. Graininess

This is often the result of improper dispersion of the powder throughout the mixture. Mixing the material at a thick consistency initially will force a more complete blending of material. A thin mix does not provide adequate shear forces to break up lumps rapidly and properly disperse the lumped materials.

4. Dry Lumps

Often dry lumps, particularly in the Finishing Compound, are the result of powder which has not been mixed thoroughly. The above mixing technique will minimize this problem.

5. Pin Holes

Very frequently, pin holes in the Finishing Compound are the result of spotty or erratic dispersion of the powder in the wet paste.

6. Poor Workability

This is an all-encompassing term which is hard to define. However, it is not uncommon to blame workability variations on the material when actually the material was poorly mixed. Proper mixing procedures will assure maximum workability characteristics.

7. Short Open Time

Excessive thinning of the compounds can affect the open time. This can be alleviated by proper mixing procedure.

8. Shrinkage

Shrinkage is exaggerated with a thin mix, or by slow drying conditions.

JOB PROBLEMS AND REMEDIES

Even with the use of properly mixed powder compounds and factory pre-mixed compounds, job problems can arise due to extremes in weather conditions and job-application techniques. Among the more common problems, with probable causes and suggested remedies or preventions, are the following:

Problem	Probable Causes	<u>Suggested Remedy or Prevention</u>	
		<u>Dry Powder Compounds</u>	<u>Pre-Mix Compounds</u>
1. Wet paste lumps	Paste frozen in storage. Thawing of paste before use does not eliminate lumps. Incomplete mixing.	Remix batch; mixing should be done by sifting powder into water, stirring vigorously and remixing after 30 minutes; recommend mechanical mixing.	Do not allow compound to freeze in storage. Mix thoroughly before use to remove lumps.
2. Paste breaking down or watering down.	Too much mixing water; hot weather.	Add more powder and mix thoroughly. Protect from hot weather by using cool mixing water and sheltering from sun.	Protect from hot weather by using cool added mixing water and sheltering from sun. Remix before use.
3. In cold weather, paste hard and "solid".	Paste frozen	Do not use; mix fresh paste and keep paste in protected room above 35° F; use 70° F water for mixing; do not use hot water for mixing.	Do not allow compound to freeze in storage. Thaw by storage in a warm area before use; do not heat paste above 90° F. Remix thoroughly after thawing to remove wet paste lumps.
4. In hot weather, paste puffy and poor working.	Thinning out at high temperature.	Use cool mixing water and keep paste out of sun; keep small amount of water on top of paste in bucket, paste temperature should not exceed 90° F. Do not store overnight in hot weather.	
5. Souring of paste	Hot weather; paste stands in buckets too long; dirty buckets.	Do not use sour paste; mix fresh material with cool water in clean buckets; keep out of sun.	Do not use sour paste; after opening container, use material within 7 days; keep container covered when not in use.

All Compounds

6. Checking in heavy fill application	Slow drying conditions of low temperature and high humidity. Fast drying conditions of high temperature and low humidity.	Maintain a minimum of 55° F. temperature in house during application and drying of material. Use Pre-Mix in hot, dry weather.
7. Voids or air pockets	Whipping air into paste during mixing.	Adjust mixer to keep mixer blades below top of paste; run mixer slowly.
8. Grit	Dry material scraped off sides of bucket or pan; dirt from floor.	Clean up buckets; do not salvage droppings from floor.
Compound ragging	Hot weather; paste too stiff; paste too thin.	Adjust method of application to avoid ragging; finish rapidly. Use proper mixing. Screen openings during hot, windy weather.

JOB PROBLEMS AND REMEDIES--Contd.

<u>Problem</u>	<u>Probable Causes</u>	<u>Suggested Remedy or Prevention</u> <u>All Compounds</u>
10. Short on coverage	Paste applied relatively thick on joints; extra dropping on floor.	Check board alignment for deep fills on joints; check lineal feet of joints treated; check width of space between boards. Check amount of metal trim.
11. Blisters under tape	Not enough joint compound under tape to bond; tape smooth, slick, and/or not chamfered.	Cut out blisters and apply joint compound; prevent blisters by checking board alignment and favoring high spots where the broadknife forces out all the paste on wiping down. Check tape for proper chamfer.
12. Edge cracks and checks	Fast drying of joint compound; excessive thickness of joint compound under tape; shrinkage of tape; paste too old and weak; very slow drying; joint compound wiped out from under tape edge.	Apply fine line of latex glue, such as "Elmers" or "Wilhold" along the edge crack and cover with finish compound. Cut out blisters and apply joint compound. Use Pre-Mix for taping and finishing in hot, dry weather.
13. Tape not bonding to wallboard	Joint compound not dry; insufficient joint compound under tape.	Allow joint compound to dry. Moisture content of joints should be same as the wallboard. If there is still no bond, remove tape and retape with fresh tape. Maintain a minimum temperature of 55° F. in house during application and drying of material.
14. Rusty nailheads	Use of uncoated nails; nailheads rusty before spotting; dirty mixing water; very slow drying.	Carefully spot nailheads with an emulsion sealer before application of joint compound or finish compound.
15. Poor bond with metal corner bead	Oil film on metal corner bead; extreme daily job temperature variation, causing excessive metal expansion and contraction.	Remove dried joint compound. Remove oil film from metal. Reapply with fresh compound.
16. Shadowing of joint through paint	Difference in suction between joint and paper surface of wallboard. Joint not dry before paint application.	In a small area, try second coat of paint; or seal the surface and repaint. Provide proper heat and ventilation. Maintain a minimum of 55° F. in house and allow sufficient drying time before decorating.
17. Beading	Changes in temperatures and humidity during application; wallboard with cupped edges; poor framing; improper nailing; poor bond between joint compound and tape.	Maintain a minimum of 55° F. temperature in house during application; allow sufficient time for joint compound to dry before finishing. To repair, sand surface smooth and reapply finish coat.
18. Nailhead dimpling	Swelling of lumber, forcing wallboard against nailhead.	Respot nails with joint compound.
19. Cupping and wrinkling of tape on wipedown	Stiff and hard tape due to normal moisture removed from paper.	Protect tape from excessive heat and drying; store in a cool area, free from dampness.
20. Excessive shrinkage	Excessively slow drying of compound. Inadequate drying time between finishing coats.	Maintain a minimum of 55° F. in house during taping and topping application. Provide adequate ventilation. Allow each coat to dry before subsequent treatment.

