



Technical Bulletin

MINIMIZING CRACKING IN GYPSUM DRYWALL SURFACES

Experience shows that one of the most preventable causes in cracking in drywall systems is ignorance and/or disregard of proper job conditions. **All** industry recommendations are consistent regarding conditioning of the site prior to, during, and after installation, finish, and decoration of gypsum drywall. All state, unequivocally, that proper drying (curing) time is allowed between operations.

The drywall sub-contractor, as well as the painting contractor, are typically required by contract with the builder to apply all materials in accordance with the recommendations of the manufacturer of those materials. In the same contract they are required to meet schedules, which directly contradict those recommendations. While we have no forum or authority under which to address those inconsistencies, it is only logical that they be considered as one of the causes of cracking and in determining responsibility for the cost to repair.

While improper procedures in hanging gypsum panels can and does, contribute to cracking, we suggest reference to the Gypsum Association recommendations for general information in application of the board. No discussion of cracking however, could be meaningful without the consideration of the extensive use of "rips" and "belly bands" which have become common in drywall installation. These "rips" typically present a drywall joint consisting of a cut edge (raw gypsum core with no tapered edge) to a paper wrapped, tapered, "factory" edge. There is no "right" or "recommended" way to finish them. Accepting that they exist however, and that they crack more often than normal drywall joints, we suggest the following procedures to minimize problems:

1. Pre-fill the low (tapered edge) side of the joint with a chemically hardening compound such as Smooth Set.
2. When the pre-filled area has set, tape with paper drywall tape using conventional all purpose, multi-purpose or taping compounds.
3. After allowing the pre-fill and taping coats to dry thoroughly, a finish coat(s) of topping cement may be applied to complete the joint concealment.

Another area prone to cracking is on "butt" joints. This is typically a vertical joint presenting two cut edges as panels that are abutted end-to-end on a wall or ceiling. Again, the industry is accustomed to accepting some cracks on these joints. The only positive aspect is that these joints are normally formed on a framing member and thus are somewhat stabilized. Also, with good planning on layout, the numbers of "butt" joints can be minimized.

In some cases, extensive cracking on "butt" joints has been attributed to the gypsum board product used. While there may be some validity to that factor, and close inspection is warranted, the more common cause is moisture. Redundant as it is, poor job conditions and failure to allow proper drying time are the main cause, and prevention is always better than repair. Taping butt joints with chemically hardening (setting) compounds such as Smooth Set and paper drywall joint tape will minimize cracking in these areas as well.

The materials used in gypsum drywall systems are extremely forgiving. It is usually only through improper procedure that problems arise in the system itself. The biggest enemy of drywall is "wet". Moisture must be controlled for good results.

Please see our related bulletins on drywall problems available on request from your Hamilton representative or our office.