

LEASE NO. 2

TE: 9-28-62

BJECT: JOINT SYSTEM EDGE CRACKING CAUSE, PREVENTION AND CORRECTION

X-6

Info-file

PLAINTIFF'S EXHIBIT

USG-1789

On taped wallboard joints, the appearance of straight narrow fissures or cracks in the Joint Compound along the edges of the tape is termed edge cracking.

The most common causes of edge cracking are:

1. Very rapid drying.
2. Misuse of the joint treatment system.
3. Cold, wet conditions in which case edge cracking generally is accompanied by poor bond.

Drying conditions will be too rapid when the temperature is above 90°F accompanied by a relative humidity below 30%. Drying can be too rapid under less severe temperature and humidity conditions if there is an excessive draft through the building.

Edge cracking can also be caused by misuses of the Joint System. For example, the contractor may over-dilute the Joint Compound, even though directions on the containers are very specific. Carelessness or inexperience may result in the application of an excessive thickness of Joint Compound under the tape which increases the possibility of edge cracking. Another cause is not following back with a "skim coat" immediately after embedding. (Ref: page 3-35 third edition Handbook Gypsum Drywall Construction.)

It is easier to prevent than to correct an edge cracking problem. Important preventive measures are:

A. Use Perf-A-Tape Ready Mixed Joint Compound as it has the greatest amount of built in edge cracking resistance. Also, it is less likely to be over-diluted than are the Perf-A-Tape dry powder Joint Compounds.

B. Use Joint Compound at proper consistency. Do not over-dilute.

C. Apply a uniform thin coat of Compound under the tape. This is one of the most important factors in the taping operation. Also follow back immediately after embedding with a "skim coat" over the tape.

CS004 1598

6589

D. Prevent drafts by placing shielding devices over the room openings.

E. If the room humidity is low, build it up if at all possible to prevent fast drying. Wetting down floors is one way. Remember that the recommended quick application of a "skim coat" over the tape helps slow the drying.

F. During cold weather application, thermostatically controlled heat at a minimum of 55°F along with good ventilation must be maintained until the building is occupied.

The contractor is taking a calculated risk if he does not follow the above recommended practices.

If edge cracking occurs there are several corrective methods that can be used. In all methods cut away any loose or weakly bonded tape edges. Failure to do this will almost certainly cause a recurrence of the crack. If cracks are small and of a "hairline" pattern, fill with cut shellac (2 to 3 lbs.). After the shellac has dried apply a thin coat of Joint Compound. If the edge cracking is plainly discernible, the cracks can be "V'd" out with a beer can opener, given a coat of shellac which must be allowed to dry and then refilled with Joint Compound. Another method proven acceptable and considered no more costly is to apply Joint Compound and tape over the crack and then apply another coat of Compound, "feathering" it out to an even surface with the plane of the board. Be sure to correct practices or conditions which caused the original edge cracking.

When atmospheric conditions exist that cause most of the edge cracking troubles--high temperatures and low humidity--the contractor should be alert to the possibility of cracks and make a careful examination after the taping and "skimming" applications have dried. Cracks can be repaired at this stage much more economically than if they are not discovered until after decoration.

Edge cracking can be prevented by the proper use of the joint treatment system, following directions explicitly and providing proper drying conditions. A maximum amount of crack resistance is built into all types of Perf-A-Tape Joint Compounds, with Ready Mixed being the leader in this respect. It should be made clear, however, that the use of Ready Mixed is not positive assurance that edge cracking will not occur. All types of Perf-A-Tape Compound must be used correctly and during the drying process there must be proper control over any unfavorable conditions of high temperature, low humidity and excessive draft. Temperatures under 55°F and slow drying also must be avoided.

Quality Department
Chicago - 159

Distribution:
All USA Regional, Division, District and Paint Sales Managers, All Line, Paint and Wallboard Salesmen, Copies to Messrs. Morgan, Watt, Bear, Futterer, Duffy, Gimlin, O'Brien, Underwood (5), Lane (5), Kyle (5), Ellwood (50), Lambe (10), Thiel, Eckrote, Rump, Massey, Entz, (10), Henkel (20), Thorman (250), and 3 copies each to all Gypsum Plants, Chamblee, South Gate and Dallas plants, warehouses and Production Managers.

C5004 1599