



CONCRETE TILE MAKING IMPACT IN HAIL COUNTRY



Insurance companies in recent years seem to be laboring under a bad moon with nearly every disaster known to man taking a toll in payouts due to damage from hurricanes, tornadoes, floods, fires and earthquakes. But as dramatic as these are, there is another natural destroyer that sometimes doesn't get the national attention that the others get but nonetheless has the ability to cause millions of dollars worth of damage on an annual basis - hailstorms. For many people, hailstorms are the occasional accompaniment to the summer thunderstorms that range throughout the country. But, to the residents of Texas, Colorado and other south and Midwestern states, hail the size of golf balls to as large as softballs can, and frequently do, totally destroy landscaping, crops, dent cars and demolish all sorts of roofing.

While very little can be done to protect growing things and cars left out in the open, the insurance companies have mounted a crusade to try to limit the damage that is suffered when roofs are destroyed. The problem with roof damage is that it quite often involves more than just repairing or even replacing the roof covering. Once a roof is breached during a storm, the entire building and its contents become susceptible to damage and insurers often find themselves paying to replace ceilings, flooring, wall coverings and furniture that sustain water damage due to rain intrusion. Since insurance companies pay billions of dollars in claims, if there is a way to reduce the amount of the damage, insurers and homeowners alike could, conceivably save millions of dollars a year.



Damage to Asphalt Shingles



Damage to Metal Roof



The task then is to find a roofing material that can stand up to the impact of these severe hail storms or at least provide a higher level of protection than is currently being offered in those areas that are prone to such storms.

Enter concrete roof tiles. Although roof tiles have proven their worth as the premier fire resistant roof covering in California's high-risk environment, it is only recently that tests have been done to prove their effectiveness against wind, hail and even earthquakes. By the time Hurricane Andrew hit, tile manufacturers had already completed wind tunnel testing that helped establish criteria for tile fastening to withstand winds in excess of 140 mph; this information has been used to help form the codes that will significantly reduce damage in future storms.

In hailstorm country, tile roofs have for years withstood hailstorms that severely damage other roofing materials and even after the most severe storms that totally destroy other roofs, only minor repair or the replacement of a few handfuls of tile were needed. Testing has recently been completed to measure the impact resistance of various roofing materials and tile has emerged as one of the top performers against all others tested. The tests consisted of ice spheres of various sizes being projected by special cannons directly at the tile at velocities calculated to simulate actual hailstorms of different intensities. This test, although more costly than the simpler version that drops steel balls onto the roofing material, provides some valuable insight into how tiles resist impact of hail stones upwards of 2 inches in diameter.

The beauty of a tile roof is that it is in fact a double roof system with the tile providing the tough outer shell that shields against the elements while protecting the underlayment of asphalt roofing paper over plywood decking. Even in the worst hailstorm, the tile will absorb the impact energy of the hailstone and allow the underlayment to remain intact as a barrier against water intrusion which can be the most costly portion of an insurance claim. Roofing materials that conversely are installed over spaced sheathing boards, offer no protection once the outer layer is breached; there are even reports of instances where giant hailstones have actually gone through the roofing material, roof deck and ceiling and into the living area.

Another concern of insurance companies is how to identify roofing materials for replacement or repair since wood and asphalt products currently have no markings to identify their origin. With roof tile, each piece has the manufacturers' name imbedded on the underside of the tile, making identification a simple matter of a phone call and sample submittal for color match.

Since tiles are fastened individually, there is usually no need to replace entire roofs after a hailstorm; broken tiles are easily removed and repaired with a replacement tile. On older tile roofs where color matches may be difficult it is always possible to recolor and seal the tiles to give the appearance of a completely new roof. On that point it should also be noted that because of the nature of concrete, tiles actually get stronger with age which further enhances their performance against hail.



While the insurance industry for years has advocated the use of Class A fireproof tile roofs in areas subject to wildfires, it seems only natural that tile will likewise become the roof of choice in areas frequently hit with wind and hail storms. When one considers all the advantages of a tile roof, it would seem foolish to choose anything else.