Hailstorm checklist

Every tenth thunderstorm is accompanied by hail, which is a form of precipitation that occurs when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere where they freeze into balls of ice. The hail falls when the thunderstorm's updraft can no longer support the weight of the ice or the updraft weakens. The stronger the updraft the larger the hailstone can grow. Hail is usually pea-sized to marble-sized, but large thunderstorms can produce large hail. The heaviest individual hailstones of about 2.2 lb were recorded in Gopalganj, Bangladesh, on April 14, 1986. However, hailstones of 7.5 lb were reported from Hyderabad, India, in 1939.

It is estimated that a 0.5 in. diameter hailstone falls at 20 mph. A large stone, however, can reach up to 135 mph.

Property damage caused by hail is not a new issue but one growing in importance due to more frequent extreme weather conditions. Hail causes approximately $1 billion in damage annually in the United States to houses, buildings, cars and crops. The costliest hailstorm in US history caused an estimated $2 billion in damage (Kansas City, MO, April 2001). The hailstorm causing the largest loss in Europe occurred in 1984 in Munich resulting in a loss of approximately $1.9 billion.

The potential damage which a hailstone can inflict is mainly proportional to the stone‘s size and the wind speed in which it falls. Clearly, a 1 in. diameter hailstone falling in high winds has a greater damage potential than a stone of the same size falling in light (or even updraft) winds. To a lesser extent, hailstone hardness and shape / fall orientation can also affect the degree of damage. Hail can fall with little warning, especially when storm clouds are close and rain is already falling heavily. When visibility permits, however, it is possible to discern certain features that are distinct to hailstorms. One of these is the so-called “hail shaft” (see photo), which indicates hail falling at a distance in a sharply defined swath. Another characteristic

The key to minimizing hailstorm damage is adequate preparation before the event.

Hailstorms may develop quickly, leaving limited time to react. If your site is located within a hail prone area and you have property susceptible to hail damage, the following should be completed:

- Develop a comprehensive, written hailstorm emergency plan to mitigate the exposures. The plan should include:
  - Assigning emergency organization roles and responsibilities.
  - Providing training at least annually.
  - Assembling emergency supplies and equipment, such as tools, portable hail covers, plastic tarps, mops, squeegees, emergency lighting, battery operated radioted ram51 Tw 0 d2 (sd0)3.8c 0 TxF2.1 (b)-5.9 (E645.3 (9o)-3 (u)3.5 (m)-1b5 (p)-7.9 (e)-9 (a a)3.5 (n)-2.3 (g) plaeoreoino4-1.5 (p)-7.9 (e)-2 (r)3.8 (a)-1.6 (t)1.8 (i)0.8 (o)-1.7-sg

- Hail nets with a roll-up functionality are by far the most widespread kind of hail net protection for vehicles during storage. Be aware that the nets are not constructed to support significant snow loads. To ensure effectiveness when the hail is accompanied by strong winds (horizontal hail impact), nets should be extended to the side of the structure. Hail nets built with an arched design are relatively new on the market. The nets empty themselves with utmost precision and in a controlled fashion into the downward sloping parts of the arches. By building them in blocks, hail protection from all angles is possible.
- Used at locations where the likelihood of heavy snowfall is extremely low. The basic construction is essentially the same as that of the roll-up hail nets.
- Consists of steel posts, beams, supports and braces in the roof as well as frames that can hold elements made of hot-dip galvanized expanded metal. This construction is designed to intercept hailstones with a diameter of 0.4 in or more. Protection against hail coming from the side can be achieved by building them as low as possible and adding side extensions.
- Usually having a width of up to 328ft, while there is practically no limit in length. Be aware that a microclimate sometimes develops in the building causing condensation. This can be avoided by utilizing industrial air dryers or air extraction devices.
- Usually not considered due to the high installation cost. Lack of space, the high price of land or climatic conditions such as frequent hail, high exposure to storms or the risk of flooding can, however, make multi-storey car parks an attractive proposition.
- A hailstorm emergency plan for automotive companies should include the relocation of new cars 1.4 f new cami forvma(a)5.5 (i(d i (o)e 1 (o)24.8 (t)1.8