

Humidity Control for Dynamite Storage

Dynamite is a high explosive consisting of nitroglycerine mixed with an absorbent material (parafin) and moulded into sticks.

Effects of Uncontrolled Humidity

Moisture is one factor that adversely affects factors affect the stability of dynamite/ explosives. The presence of moisture in explosives is undesirable because it reduces the sensitivity, strength and velocity of detonation.

Moisture affects the explosive adversely by acting as an inert material that absorbs the heat when vapourized. When moisture content evaporates during detonation, it reduces the temperature of the reaction.

Moisture also aggravates the process of decomposition of the explosive and causes the explosive's metal container to corrode.

**Causes of Uncontrolled Humidity**

The Dynamite when made to react with parafin for storage and moulded into sticks, leads to release of moisture, which should be removed properly before packing. The parafin used are well known moisture retainers by their chemical property.

General Recommendation

It is recommended that explosives such as dynamite are stored in an environment of around 40% RH humidity.

Bry-Air Solutions

Bry-Air's recommendation is to install a Bry-Air desiccant dehumidifier as they are capable of maintaining dew point as low as -60°C regardless of ambient conditions. Dynamite that is stored under warm, wet and/ or humid conditions deteriorate quickly. For longer shelf life of dynamite it is essential that it does not absorb any moisture from the atmosphere during storage.

Partial Reference List

- Customs Arms Storage (Australia) : FFB -1500