**Gypsum**

As demonstrated by its presence in the Egyptian pyramids, gypsum has served as a vital piece of many famous construction projects throughout history. Over thousands of years, this important mineral has demonstrated its versatility and sturdiness and has become a staple in today’s homes, buildings and structures.

Gypsum is a calcium sulphate dehydrate – CaSO4.2H2O) was formed in geological time through the evaporation of seawater. It is often laid down in beds, ranging in thickness from a few centimeters to several tens of meters.

* **APPLICATIONS**
1. For plastering walls and ceilings.
2. For making decorative features in buildings.
3. For external rendering in dry climates.
4. For mortar, and for making building blocks.
5. Soil conditioning for agriculture.
6. Reinforced with fibers and cast in moulds to produce precast decorative panels.
7. A significant ingredient in Fly ash – Lime – Gypsum (FaL-G) bricks and blocks.
8. As an additive in the manufacture of Ordinary Portland Cement.
9. In surgical splints.
10. As an additive in certain foods such as tofu.
11. In some types of medicines and pharmaceuticals.
* **Specification**
* **Chemical composition of gypsum**

|  |  |  |  |
| --- | --- | --- | --- |
| Mineral | Sulfur Trioxide (SO3) | Water Crystallization (H2O) | Lime(CaO) |
| Gypsum | 42 -46 | 18-22 | 30-40 |
| Anhydrite | 40-42 | 00.00 | 58 -60 |

* **Engineering properties of gypsum and, anhydrite.**

|  |  |  |
| --- | --- | --- |
| Property | Gypsum | Anhydrite |
| Specific gravity, g/cm3 | 2.24 | 2.97 |
| Dry density, mg/m3 | 2.19 | 2.82 |
| Porosity, millidarcy | 4.6 | 2.9 |
| Unconfined compressive strength, MPa | 27.5 | 97.5 |
| Point load strength, MPa | 2.1 | 3.7 |
| Young’s modulus, GPa | 24.8 | 63.9 |
| Permeability, 10–9 m/sec | 6.2 | 0.3 |
| Hardness, Mohs scale | 2 | 3.25 |
| Whiteness  | 90-93% | 90-93% |

**We producing all types of gypsum (bulk, sizes and grinded) from our quarries in ZAAFARANA & QUSSIER areas, for construction & cement industries.**