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CHARACTERISTICS

Cork, an amazing natural product

The bark of the cork oak tree has a unique honeycomb structure composed of tiny cells filled entirely with air. The properties of cork derive naturally from the structure and chemical composition of the extremely strong and flexible membranes, which are also waterproof and airtight. Each cubic centimetre of cork's structure contains between 30 and 40 million cells.

Some of cork's most unique and useful characteristics are:

Lightness:

Around 80% of the cork volume consists of gaseous matter, which makes cork extremely light and buoyant.

Elasticity and Resiliency:

The cellular membranes are very flexible, making the cork both compressible and elastic. These characteristics, together with other qualities, largely explain how cork has become indispensable for stoppers manufacturing.

When cork is subjected to strong pressure the gas in the cells is compressed and reduces considerably in volume. When released from pressure cork immediately recovers its original volume.

Impermeability:

The presence of suberin (a complex mixture of fatty acids and heavy organic alcohol) renders cork impermeable to both liquids and gases. As a result it does not rot, and may therefore be considered one of the best seals available.

Insulation:

Cork has one of the best insulating capacities, thermal and acoustical, of all natural substances. This is due to the fact that the gaseous elements are sealed in tiny, impermeable compartments, insulated one from the other by a moisture resistant material.

Fire retardant:

Cork is a natural fire retardant as it does not spread flames and does not release toxic gases during combustion.

Durability:

Cork is also remarkably resistant to wear and has a high friction coefficient. Thanks to the honeycomb structure, it is less affected by impact and friction that other hard surfaces.

Hypoallergenic:

Cork does not absorb dust and, consequently, does not cause allergies nor pose a risk to asthma sufferers.

Biodegradable, recyclable and renewable:

Cork is a natural raw material which is 100% biodegradable, recyclable and renewable.

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CORK OAK FORESTS

AN EXAMPLE OF SUSTAINABLE DEVELOPMENT

The cork oak forests are well-adapted to the semi-arid regions of southern Europe, preventing desertification and providing the perfect habitat for many animal and plant species, including some rare and endangered species. Preserving the cork oak forest areas, and the cork's economic viability, is essential to maintain the biodiversity, avoiding desertification and promoting regional social stability. According to WWF, around one hundred thousand people in southern Europe and north Africa directly and indirectly depend on cork oak forests.

Cork production is assured with new plantations every year. Trees are never cut down or removed without strong government intervention, which prohibits this activity. Portugal, which produces more than 50% of the world's cork, has been particularly careful with this resource. The first Portuguese regulations protecting cork oak trees date to 13th century.

The role of cork in preventing the global heating is significant. The cork bark of the tree regenerates itself after harvesting and it is known that a harvested cork tree absorbs 3 to 5 times more carbon. A recent study indicated that Portuguese cork forests can absorb 4,8 million tons of carbon each year and it is estimated that Mediterranean cork forests can absorb over 14 million tons of carbon per year.

The cork industry itself is truly eco-efficient. All cork is used, not one gram of cork is wasted. Cork by-products, are used in different products (flooring, decorative items, automobile industry...), and recycling (post-industrial and post-consumer) is a common practice. Even cork dust is used to generate energy.

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