news ecoCORK

AMORIM CORK COMPOSITES

Amorim Cork Composites (ACC) *is one of the largest and dynamic multinationals of Portuguese origin. Its origins were back in 1870 and today it is the world leader in the sector. It is also willing to serve the aerospace industry since cork products have been recognized in aerospace due to their properties.*

Since the Scout rockets in the 1960´s passing through the iconic Space Shuttle to today's Falcon, Delta or Ariane and Vega programs, ACC has consistently supplied quality grade products to the Aerospace industry.

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CORK for Thermal Protection!

Space vehicles that enter a planetary atmosphere (i.e. earth) like the Space Shuttle Orbiter require the use of a thermal protection system (TPS) to protect them from aerodynamic heating. The aerodynamic heating is generated at the surface of an entering object due to the combination of compression and surface friction of the atmospheric gas. The vehicle's configuration and entry trajectory in combination with the type of thermal protection system used define the temperature distribution on the vehicle. The Space Shuttle features a TPS system based on the use of surface materials with a high temperature capability in combination with an underlying thermal insulation to inhibit the conduction of heat to the interior of the vehicle. The heat developed from the aerodynamic heating process is thereby radiated back into space by virtue of the high surface temperature. The leading edges of wings and the nose cap are the highest temperature regions. Due to the wide variation of these temperatures the TPS selected for Space Shuttle was composed of many different materials. Each material's temperature capability, durability and weight determine the extent of its application on the vehicle. Improvements to these materials have been the subject of much research as enhanced capability material (i.e., more durability, higher temperature capability, greater thermal shock resistance and lower thermal conductivity) improves thermal protection material and vehicle performance [NASA].

Cork comes to the forefront as a TPS material due to its excellent properties. Cellular microstructure in cork provides a good thermal isolation behavior for the structures.

Internship in ACC was great!

Students introduced to the cork science in ACC. Cork processing was in investigated from harvesting to final products. Students saw every state in cork processing on site. Moreover, students contributed to the production team in ACC. Each student had an experience of machine operating in cork production. It was a unique experience with cork! In the free times, students had a chance to visit the cork forest and enjoyed the sunny sky.

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