

## **Natural fibres in biobuilding for healthy housing**

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In our society around 90% of the life of men is spent in a confined space (home, school, work, amusement, etc.). The air that is breathed in these closed spaces is much worse than that (already bad) outside; the construction and housing trade is without doubt the human activity of highest environmental impact. Recovering also the experience of men attained throughout the centuries, bio-ecological architecture constitutes a global answer to the progressive degradation of the environment. It is not a specialist sector but a radical reconsideration based on ethical principles and on environmental sustainability. The architectural interventions, if implemented with healthy and natural materials, that guarantee the respiration of the buildings will avoid the formation of condensation and mould, unhealthy environments, harmful and allergic microclimates, and indoor pollution that are widespread in houses built with current technologies and materials. Agricultural products, better if organic, (hemp, marsh cane, linen, kenaf, cork, wood, citruses, clay, as well as sheep's wool, milk, bee's wax etc.), constitute the "primary material" for the manufacturing of building materials of "bio-ecological" quality, and are a valid alternative to synthetic materials. Hemp, linen, kenaf, *Arundo donax*, are materials suitable for the production of:

- Oil, wax and stains for structures and furnishings;
- boards for plaster and heating systems;
- insulating mats;
- fabrics for stiffening and reinforcement;
- dividing boards;
- biomass for fuel;
- no-dust paper;
- jute;

all these materials are widely used in bio-ecological Architecture and bio-construction.

In particular, the local, traditional cultivation of the hemp crop (*Cannabis sativa* L.) improves the fertility of the soil, and it needs low chemical and energy inputs during cultivation. With the production of abundant biomass it turns out to be ideal for our zone, producing also a positive environmental effect of CO<sub>2</sub> "absorption", in line with the Kyoto protocol.

The A.N.A.B. since 1989 has promoted events and demonstration activities for the diffusion and spread of the culture of the "Sustainable Plan", of the principles of bio-ecological architecture and bio-construction. ANAB carries out education activities for the techniques of the building sector, it certifies bio-ecological materials, it monitors and certifies building organisms, it carries out consultations and guidance to public entities for bio-ecological interventions; it proposes the activation of "demonstrative projects of civic buildings" as a means of communicating the effectiveness of bio-ecological architecture, also as a tool for sustainable development.