

2<sup>nd</sup> World Congress and Expo on

# Recycling

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## Composite material; use and appreciation of pine bark waste from sawmills and recycled plastic from the region Northern Sierra at Oaxaca, Mexico

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Today, throughout the world, including Mexico, there is a high level of water, air and soil pollution, caused largely by the large volumes of waste generated daily and receiving little or no treatment. For this reason, the research is about the recovery of waste in the wood industry and plastic recycling to get a composite material that increases the habitability in rural communities which work on forest industry in Oaxaca, Mexico. These days it is important to get new products that are accessible to consumers. Therefore it requires a low-cost technology in order to increase the quality of life in families and conservation of existing resources in rural communities. The research was experimental order. The objective is to develop a management culture of waste industrial, plastics recycling on houses, sources of employment and a new material for regional construction industry. The materials were, first, bark of *Radiata* and *Pseudostrobus* pine generated by the process of sawing wood and the second polyethylene recycled of high density (HDPE) from waste of houses. The fabrication was by extrusión and hydraulic press process. The material was tested of thermal conductivity, flexión and swelling by international standards UNE-EN. With this process, through a composite material of pine bark waste and recycled plastic, we can get a material resistant to moisture and thermal insulation, which function like a coating wall in timber houses in a region with high levels Social Gap Index in Mexico.

### Biography

Nubia Luna Rueda is an Architect from UPAEP (Universidad Popular Autonoma del Estado de Puebla, Mexico, 2011). Currently, she is pursuing her Master of Architecture, Area of Technology from UNAM (Universidad Nacional Autonoma de Mexico) from 2014 to 2016. During 2011 to 2013, she was Architect at H&H Group at Oaxaca, Mexico. Now, she is an Independent Architect, Design Expert in project management and wooden furniture making.

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