



Pellexo- DINPlus Certified Wood Pellets from Abellon Clean Energy

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In the context of a growing global energy crisis, Abellon CleanEnergy has been established with a vision to alternate energy generation sources, and develop viable alternate energy sources and generation techniques, leading to a movement towards self reliance in the global energy sector, especially in India and other emerging global economies. Pellexo- a brand name of our wood pellets is the only DINPlus certified wood pellet in southern Asia which is used as biofuel and replaces coal, lignite and other fossil fuels.

About 55% of the India's timber requirement is catered through Kandla Port. Gandhidham is located at the proximity of 30KMS from Kandla port, the major hub for timber processing. Approximately 400 saw mill operate in the vicinity of 20-30 Km. About 25 Lac cubic meter of wood is being processed at Gandhidham per annum, which generate about 700 to 900 tons of wood wastes in the form of Saw dust and wood strips

Processing: The processing equipments has better control over machine through PLC.

Processing machineries includes:

- Chipper Machine for Feeding Mechanism
- Dryer + HAG (Provision for Saw Dust System)
- Hammer Mill
- Mixer
- Conditioner
- Pellet Mill
- Counter Flow Cooler
- Vibrating Screen
- Bagging Machine
- Wrapping Machine

The raw materials, wood chips and wood strips are directly sent to pre-processing units for reducing the size of feed material. The uniform raw material is conditioner with water if required to maintain humidity. The material transferred to pellet mills



through rotary feeder. The Pellet mill is main processing unit wherein two rotors are stable & Die is rotating and cutter is cutting the finish material (pellet). Using Peddle conveyor, Pellet travels to Counter flow cooler. This cooler cools the pellet upto ambient temperature. The cooler is equipped with auto level sensor and grate mechanism for sufficient retention time. In Downstream, the finish product (Pellet) comes in vibrating screen wherein the fine particles are separated and pellets are stored in loose form as well as bagged and sealed with stretch wrapping machine.

Product Quality Analysis:

The quality assurance department daily monitors raw material and finish good quality parameters as per DINPlus guidelines.

Ash and moisture contents are critical and checked daily for every raw material arrives at plant. While presence of unwanted materials like plastics, threads, clothes peace, etc are inspected visually. Nitrogen, sulfur and chloride content of wood strips and chips are also checked periodically as per suppliers terms and conditions.

Finish goods (pellets) are analyzed for its bulk density, moisture and mechanical durability. Periodically the pellets are also tested for calorific value, ash, chloride, sulfur, nitrogen content and fines generated at the end of production. Diameter and length of pellets are also physically measured as a part of quality assurance.

The QA department is equipped with all required instrumentation like hot air oven, muffle furnace, analytical balances, bomb calorimeter and ligno tester for durability

testing. The equipments are calibrated periodically for quality performance.

Product Application: Pellexo is used at the industrial, community and retail sectors. At industrial level, it is used for utility requirement for industrial units having FBC boilers, Traveling grate boilers, Thermic fluid heaters, hot air generators and for co-firing in large thermal power plants. The product is suitable for all types of combustion system without modification in combustion system. It significantly improves energy output and thereby efficiency of production. At community level, it can be used at community cooking stoves and large spaces such as malls, educational institutions, etc. At retail level, it is used at the pellet stoves in domestic / home heating and cooking applications.

Product Benefits:

Coal, Lignite and other fossil fuels are replaced by Pellexo. One tonnes of Pellexo replaces 1.5 tonnes of lignite. We estimated that the client would successfully reduce 1.5 tons of CO₂, as well as other local pollutants such as SO_x, NO_x and SPM by replacing 1 ton of coal with Pellexo, resulting in significantly improved workplace and surrounding environment.

Clean Development Mechanism (CDM) benefits to be availed to the clients, for which Abellon has an in-house team of CDM experts who help the clients understand the CDM mechanism, take appropriate actions to comply with the same, obtain CDM approval for their projects, and ultimately, gain the financial and environmental benefits accruing from the same in the form of Carbon Emission Reduction (CER). Preparation of case study based on successful replacement of fossil fuels and resulting environment and economic benefits to the clients. Pellexo also helps our clients to meet their Pollution Control Obligations, adds scope for earnings through CDM Mechanism and assists them in branding their organizations as clean, green and environmentally responsible.

Abellon has plans to expand its manufacturing capabilities for bio-pellets to scale-up at over 500000 tonnes per year, through setting up facilities across India, Ghana, Canada & USA.



The 120 TPD wood pellet production plant is located near Gandhidham in Bhuj.



Image: Production description



Image: QA picture

Image: Pellexo Product

