

CPVC pipes go mainstream

The chlorinated polyvinylchloride (CPVC) pipes market in India is growing at a healthy rate due to tremendous government spending on infrastructure. This has led Rajoo-Bausano, a pipe machinery joint venture set up in India, to cater to the demand with new machinery. Indian extrusion machinery maker Rajoo Engineers entered into an equal equity joint venture with Italy-based pipe machinery maker Bausano in 2010 to manufacture and market pipe/profile extrusion lines in India with special emphasis on the African, Gulf and SAARC markets.

The boom in the building and construction industry, especially in the housing and commercial building sector, has fuelled high demand for cost effective, reliable and quality piping and plumbing systems. It is estimated that there are more than 20 CPVC pipe manufacturers in India while the growth rate of this sector is approximately 40% a year.

According to Sunil Jain, Director of Rajoo-Bausano, "CPVC pipes are a logical and cost-effective choice over copper, galvanised, iron and alternative plastic systems. These pipes are safer, faster and easier to install, hence saving on labour costs." Sunil adds that CPVC has a number of features that make it an improvement over conventional piping systems.

"It is readily workable, including machining, welding and forming, and has excellent corrosion resistance at elevated temperatures. CPVC is also non-toxic, while PVC may leech toxins into water at increased temperatures," he adds.

More specifically, cold welding using CPVC solvent is fast and simple, ensuring leak-free installation for the entire life span of the piping system, said Sunil.

"CPVC piping is recognised in all model plumbing codes. For hot and cold water applications, CPVC pipes and fittings are pressure rated as per ASTM D 2846 for continuous use at 100 psi at 180°F and 400 psi at room temperature. CPVC is fire resistant and will not burn without a flame source, making it suitable for fire suppression systems in light hazard and residential settings."

New launch of machinery

With the urbanisation rate and growth in infrastructure spending in India, Sunil reckons that the trend in the country will change to the use of newer piping material and hence, the introduction of new machinery for this.

To date, Rajoo-Bausano has launched machines for rigid polyvinylchloride (RPVC), CPVC and polyethylene (PE) pipes. Twin-screw pipe plants are available with outputs range from 200 kg/hour to 2,000 kg/hour and pipe diameters range from 15 mm to 1,000 mm.

Rajoo-Bausano says it offers the widest range of high productivity and energy efficient twin-screw extruders TwinEx with the "Multidrive" system for the production of RPVC/UPVC pipes, CPVC pipes, profiles, granulations and medical tubes, complete with downstream equipment.

Speaking about the machinery's highlights, Sandip Bhuva, General Manager of the joint venture, said, "Due to the machine's higher L/D ratios, the extruders enhance melt homogenisation at higher output levels, compared to competitor models with similar size extruder and motor ratings. This results in lower energy costs, which is the second biggest cost component after raw materials. Furthermore, the machines help in easy processing of a wide range of formulations."

The line also incorporates a revolutionary transmission system known as "Multidrive". Said Sandip, "It has great advantages in terms of the durability and performance of the extruder. Some of the advantages include elimination of the torsional stress on the driving shaft and multi-stage thrust bearings that give a threefold increase in the dynamic load to absorb the increased load at high production levels without any problems."



Sandip Bhuva says that the new joint venture offers the Indian market competitive machinery

Temperature in the screw is controlled by internal circulation of silicone oil and a thermocontrol unit for better processability. High efficiency air cooling for the barrel zone and an oil cooling system for higher output lines are other salient features.

Other features include the online power measuring system, special coating on the screw, automatic diameter and thickness control system and an online beelling system.

Competitively priced machinery

To maintain competitive pricing, the machinery from Rajoo-Bausano will be made in India. "Initially the screw, barrel and patented gearbox will be supplied by Bausano from Italy but within two years these will be manufactured in India. All other assemblies are made in India in accordance with Bausano's technology," said Sandip.

He also pointed out the attractive price/performance ratio compared to Western machinery as the line combines "Rajoo's best-in-the-class

infrastructure and Bausano's sublime pioneering technology."

Another highlight of the Rajoo-Bausano pipe machinery is that it incorporates the vacuum sizing technique while many competitors still use the obsolete bung sizing, said Sandip.

"Vacuum sizing enhances product quality in terms of product surface smoothness and dimensional accuracy. Higher line speed can be achieved through the unique design of such a calibrator. The tanks are made of stainless steel for high corrosion resistance and long useful life.

The three axis adjustment system with motorised lateral position control allows for quick precise positioning. The final benefits are reduced energy consumption while transporting fluids through the pipe in addition to controlled weight per meter of the pipe," emphasises Sandip.

When asked if any machines had been sold yet, Sandip said, "We are in discussions with many prospects and close to finalising the deals."

Rajoo-Bausano's CPVC pipe line



The joint venture does not intend to rest on its laurels just yet, having launched a wide portfolio. It will be launching machinery for profiles for unplasticised polyvinylchloride (UPVC) and wood plastic composites (WPCs), which will be available by next year.

The company will also be introducing granulators for rigid and flexible PVC, polyolefins, TPR and masterbatch, shortly, said Sandip. "We will be launching more machines from the Bausano portfolio soon. Customers will now have world class technological products at affordable price levels," he concluded.



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- Longer L/D ratio
- Unique design of Vacuum Tank
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