

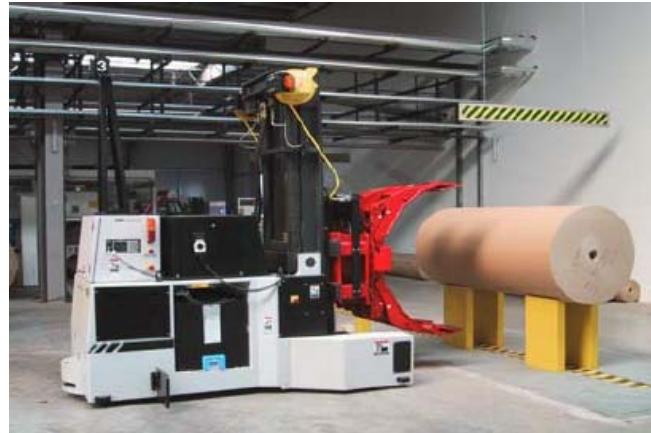


Warehouse Operations Streamlined with use of Automatic Guided Vehicles

Features and Benefits

- Less Roll Damage due to Handling
- Reduced Labor Costs
- Increased Storage Capacity
- Increased Safety
- Streamlined Warehouse Operations

Industry Group: Automatic Guided Vehicle Systems (AGVS)



A key factor affecting flexibility is the way in which paper rolls are handled throughout the facility.

In building its new facility, one of Europe's most modern corrugated board production plants was looking for a way to address customer expectations of a wide range of products with quick delivery and low pricing. Flexibility and reliability were critical components to a successful system.

In order to address these needs, a fleet of three automatic guided vehicles (AGVs) was installed to handle 180 paper rolls per day. The rolls vary in size and range from 55 in. to 98 in. wide, 24 in. to 59 in. in diameter and weigh up to 7,700lbs.

The reels are delivered to the warehouse daily via supplier's trucks, and unloaded manually by forklift trucks. Barcode labels are pasted on the reels and scanned as they are picked up by the forklift drivers. The data is sent to the Warehouse Management System (WMS).

The reels are then delivered to the buffer storage area and this is the last time the reels are handled manually. The Clamp Type AGVs take over from here and navigate through the plant using laser guidance. The WMS instructs the AGVs to automatically pick up the reels at the buffer storage area and deliver them to appropriate locations in the warehouse. The AGVs can reach up to 24 ft. high, and reels are stacked three high in the warehouse.

The WMS also interfaces with the production scheduling software, and knows which reels will be needed for upcoming production. The WMS then instructs the AGVs to retrieve the reels from the warehouse and deliver them to the correct input cradle. The unique clamping mechanism rotates so that the reel is placed in the cradle with the wind in the correct orientation.

Finally, partially used rolls are returned to storage by the AGV in order to minimize waste.

The use of self-guided vehicles ensures a highly flexible and reliable platform for storing and delivering reels. The AGVs also helped to maximize storage capacity, minimize reel damage due to handling, minimize costs, and provide a safe work environment.



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