

Application Status and Development Trend of Plastics in China's Chemical Building Materials Industry (Plastic Pipe)

“Chemical building materials” refer to the building materials produced by synthetic organic polymer materials for the new building materials industry. The plastic products used for chemical building materials mainly include: Polyvinyl chloride, polypropylene, polyethylene, polybutene, ABS, PP-R, PEX and PE-RT, etc, which are mainly applied to plastic pipes and door& window profiles for buildings. This paper gives a detailed description of the application status and development trend of plastic pipes.

1. Application Status of Plastic Pipes in China

Plastic pipe has experienced a long history in China, i.e.: research and development in 1980s, promotion in 1990s and industrial development in current phase. Since the late of 1990s, the excellent performance of plastic pipe has been gradually recognized by the people, helping to create a favorable environment for the development of plastic pipe industry in the large-scale urban infrastructure construction and real estate development, as well as the construction of rail transit network, elevated highways, expressways and rural roads during “9th Five-Year” , “10th Five-Year” and “11th Five-Year” .

2. Growing Varieties of Plastic Pipes and Increasing Manufacturers and Output of Pipes

At present, China has developed and utilized a variety of plastic pipes for engineering applications, such as: PVC solid pipes (straight-walled, foamed, spiral, reinforced and corrugated), HDPE pipes (PE, PE-RT feed pipe, PE drainage pipe, PE gas pipe, PE double-wall corrugated pipe and PE wind pipe), PP pipes (PP-R pipe, PP-R stable pipe, PP-R aluminum-plastic pipe and PP static drainage pipe), CPVC water feed pipes, power supply pipes, ABS, PB engineering plastic pipes, plastic mortar pipes, steel-plastic composite pipes, wiremesh composite pipes, PEX underflow heating pipes, M-PP electric conduits and FR-PP drainage pipes. Meanwhile, the number of manufacturers has increased rapidly from nearly 10 in early of 1990s to 104 at present.

3. Promising Prospect of Plastic Pipes based on Current Social and Economic Situations in China

1. Excellent properties of plastic pipes contribute to the strong market competitiveness;
2. Huge market demands are created for the development of plastic pipes with the acceleration of urbanization (36.2% in 2000, 43% in 2005, and expected 47% in 2010);
3. Technology and policy supports for energy-saving and emission reduction provide market opportunities for the development of plastic pipes.

It's estimated that the annual consumption of plastic pipes will exceed 4 million tons in the coming years, of which: 3 million tons are used for the housing and urban/rural construction projects with a growth rate not less than 10%.

4. Scope of Applications and Present Status of Plastic Machines

The production equipments for plastic pipes mainly include: extruding and injection machines. Such equipments were mainly imported during mid-1990s, and indigenously-made plastic machines were improved innovatively from late-1990s, winning reputation for higher processing stability, degree of automation and satisfactory after-sale services. At present, indigenously-made machines are commonly used in pipe industry.

5. Manufacturers of Plastic Pipes Show Particular Interest to the Following Products on "CHINAPLAS" :

1. Extruding units of plastic pipes, including: vacuum charging device and on-line detector, etc.
2. Extruding moulds of plastic pipes, especially for composite ones.
3. Injection machines for plastic pipe fittings, especially for those molded by PVC powdered resin and those equipped with robot.
4. Moulds with multiple cavities and steel materials for mould fabrication.

Source : Shanghai Chemical Building Material Trade Association