

Safe, clean and careful of resources – pipework systems for pneumatic conveying

Pneumatic conveying systems use gas to help transport bulk materials of all kinds by above-atmospheric pressure and negative pressure. The composition and quality of the pipes used play a crucial role in ensuring that transportation causes as little damage as possible. BUTTING supplies pipes with special interior surfaces, elbows and shaped parts for this purpose.

Our products appeal because they have previously been used in many different projects and they stand for safe, modern extraction technology. At present, for example, we are supplying 140 components based on isometric drawings for a north American customer expanding the capacity of a plastic-manufacturing plant. The project is being handled locally by our BUTTING Canada team. The time-window was set very tightly, which meant we had to send the prefabricated pipes, weighing around 36 t, by airfreight.



When plastics are transported, abrasion takes place in the form of fibres and film. This type of abrasion is caused by the granulate scratching against the pipe wall. The heat from the friction melts the grain at the place of contact. In the long run, this can lead to deposits on the inner walls of the pipe in the form of “threads” (so-called “sauerkraut”) and if the worst comes to the worst, this may block the piping system.

From smooth to roughed-up: Depending on the physical properties of the material to be transported and the type of transport, individual degrees of roughness on the inner surfaces of the pipework system are required. With polyolefin granulate, for example, the rougher the surfaces, the less film-like abrasion takes place.

BUTTING uses two different processes to rough up the inner surfaces: ball blasting and rough rolling. With the latter, pressure over a serrated roller at specified intervals and depths produces indentations. It was also used in this project, in which plastic pellets were transported down the pipes by air pressure.

For the order we produced pipes in sizes 8”, 10” and 12”, as well as elbows with narrow radii of 1,830 mm, with angles between 15 and 90°. By gently redirecting the material being transported, they avoid any possible damage to the medium and the pipe walls if it collides with the back of the elbow. Using narrow elbows also avoids serious abrasion.

For prefabricating the components, our customer decided on welding neck flanges – a safe and also cost-effective method of connecting them. After all: A pipe work system as a whole is always only as good as its pipe connections.

BUTTING – Progress by Tradition