

Elbow Design Yields No Streamers and No Fluff

In traditional long-radius elbow installations, pellets slide along the elbow wall with high velocity, and the high centrifugal forces press the pellets against the outer metal surface. The result is friction, which creates heat that melts the outer layer of pellets, resulting in a thin film buildup along the surface of the wall. This buildup eventually breaks loose, forming unwanted streamers and fluff that lead to product contamination. A new type of conveying pipe elbow can avoid the friction caused in traditional elbows. Pelletron Corp., Lancaster, PA, has a patented design called the Pellbow that is engineered to minimize the damage caused when solid particles are injected into a high-velocity conveying system. It creates a streamlined pocket shape by enlarging the bend at the incoming point. As a result, it produces a soft layer of pellets before the pellets impact the angular target zone. This soft layer of pellets deflects incoming pellets toward the outlet, thus minimizing product degradation and elbow wear. By design, material flowing through the Pellbow accumulates in the pocket or "impact zone" and moves slowly upward and out. Incoming material is deflected at 90 degrees with minimum resistance and no impact damage.

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