

Macawber Installation Case Study:

Great Lakes Carbon Petroleum Coke Turnkey System

IN BRIEF

This project is an example of Macawber's capabilities in turnkey supply of a dependable, pneumatic conveying system to eliminate the problems the customer was experiencing with the existing mechanical system. The belt and shuttle conveyors required high maintenance and coke frequently spilled at transfer points. Dusting was a continual problem from product blowing off the belts (outdoor installation). Performance of conveying tests at our Maryville, TN facility resulted in minimal degradation and air flows. The customer required an installed system, which Macawber was able to provide in Port Arthur, Texas using a local installation contractor. Macawber provided installation supervision, start-up, training and performance testing. Spillage and dusting were eliminated and the system exceeded the required 50 tph conveying rate.

MATERIAL CHARACTERISTICS

Material	Calcined Petroleum Coke
Bulk Density	48.5 lbs/cu.ft.
Size	100% <8mm
Moisture Content	Dry
Condition	Free Flowing, abrasive

SYSTEM OBJECTIVES

1. Minimize product degradation
2. Eliminate dusting/spillage associated with mechanical conveyors
3. Provide a turnkey, dependable, high tonnage transfer system

SYSTEM PERFORMANCE

Transfer Capacity	Max 70 t/h
Conveying Distance	500 ft.
Reception Points	2 existing silos

SYSTEM DESCRIPTION

Screened pet coke is diverted from existing discharge chutes via new diverter valves. The coke is elevated by a screw conveyor to a fixed bar guard screen. The coke is sampled at this point by an automatic sampler. Oversize material is discharged via a rejects chute to a collection point. The screened coke feeds into a surge bin which discharges into a Model 50/12 Denseveyor®. The coke is conveyed through a 12" pipeline to an intermediate bin which feeds a second Model 50/12 Denseveyor® conveying to two existing silos through a Dump Valve/Terminal Box arrangement.

