

# CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT NORTH CAROLINA

## Case Study

### Charlotte Douglas International Airport

Charlotte Douglas International Airport (CLT) is located in Charlotte, NC. Owned and operated by the City of Charlotte, CLT is one of the top ten busiest airports in the US. The airport is served by 19 domestic, regional and international carriers with 625 daily departures serving 128 destinations carrying more than 34 million passengers annually. In addition to passenger travel the airports executive terminal private air center services many Fortune 500 companies headquartered in the region, while 20 cargo carriers forward 170,000 tons of cargo to destinations worldwide.



### Project Challenge

Charlotte Douglas International operates around the clock while maintaining its commitment to its customers and to the environment. This commitment requires airport managers to continually evaluate and monitor programs, and implement new processes and improvements to ensure that their environmental commitment remains up to date. Airport environmental operations are designed to manage and prevent environmental problems from occurring throughout its operations. The project challenge included identifying a Best Management Practice (BMP) that would filter and remove hydrocarbons from stormwater runoff flowing into catch basins and trench drains without infrastructure modifications.



Working with the airport Environmental Affairs Department (EAD), locations were selected for installation of the patented AbTech Smart Sponge® Technology. The EAD selected catch basins at the airport fuel depot, the wastewater disposal facility, a vehicle repair and maintenance facility and select catch basins at terminal gates. Filtration of hydrocarbons in the stormwater runoff is the primary treatment objective at these locations.

Smart Sponge® Technology was chosen because it adapts to the existing infrastructure without modifications, provides easy maintenance and installation and is a proven pre-engineered design BMP. Smart Sponge® products demonstrate an immediate environmental improvement. Ultra Urban® Filters (UUF) and other Smart

Sponge® products have a strong aviation track record having been installed in 15 domestic and military aviation facilities and over 13,000 other locations throughout the US.

At Charlotte Douglas International, a combination of UUF's, Passive Skimmers and custom designed galvanized steel filter inserts using AbTech Smart Sponge® Smart Paks® were installed at the locations. AbTech's regional distributor Hanes Geo Components provided engineering support, filter mounting collar design and manufacturing, and installation. The products were engineered to drop into catch basins and trench drains, to ensure the drains were protected from accidental spills of jet fuel, hydraulic fluids, greases, oils and related hydrocarbons common to stormwater runoff at these locations. The Smart Sponge® products met all requirements for easy maintenance and service. Passive skimmers were engineered to filter sheet runoff into the trench drains and protect trench drain discharge points.

After 8 months of installation EAD reports the Smart Sponge® Technology has performed with virtually no maintenance providing measurable environmental benefits. Installing Smart Sponge® products in these areas attests to Charlotte Douglas International Airport long term commitment of making wise investments in facility infrastructure and environmental quality.



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INDUSTRIES

MAKERS OF  
**smart sponge**  
PRODUCTS

4110 North Scottsdale Road • Suite 235 • Scottsdale, AZ 85251  
480.874.4000 • 800.545.8999 • [www.abtechindustries.com](http://www.abtechindustries.com)



## SMART SPONGE® – An Ideal Solution for Airport Stormwater Management Programs

Smart Sponge® Technology has a unique molecular structure based on polymer technologies that are chemically selective to hydrocarbons. Polymers are composed of molecules that chemically react to form large molecules. The non-leaching Smart Sponge® permanently bonds with jet fuel, grease, oil, diesel fuel and gasoline, transforming these liquid petroleum hydrocarbons into a manageable solid waste that forms a gel-like structure. The filtration material is fully recyclable, environmentally friendly, and provides a complete closed loop solution for removing pollutants from stormwater.

For more information about the Smart Sponge® technology, visit [www.abtechindustries.com](http://www.abtechindustries.com) or call 1-800-545-8999.

