

Polymer Production

Sinterflo® M pleated mesh, USA

Customer / Project:	Polymer production, Oil and Gas
Industry Sector:	Chemical production
Application:	Specialty gases purification
Products:	Custom Sinterflo® M pleated mesh elements
Primary Motive:	Maintain purity and quality of O2 feed
Location:	USA
Project Date:	2020
Division:	Ashland, USA



Customer Overview:

The end user is one of the largest producers of polymers with over 50 manufacturing facilities around the world.

Among the products it manufactures are ethylene, propylene, linear low-density polyethylene (LLDPE), low density polyethylene (LDPE), and many more. These polymers are used in a variety of plastic products used throughout our daily lives.

Customer's Problem:

The customer uses Oxygen (O2) in the polymer manufacturing process, and it has to be free of contaminants. In addition, due to O2's ability to support combustion; any grease, oil, particulate, and/or filter media fibres in the O2 stream could ignite and potentially start a catastrophic fire in the system which could extend throughout the facility.

For this reason, special care must be taken in the selection of the material to be used in this service, and the filtration components must be cleaned as per the client's stringent requirements.

This includes the Porvair cartridges as well as the pressure vessel housing such cartridges.

Porvair Solution:

Porvair has worked closely with the customer to custom design Sinterflo® M mesh pleated cartridges in Monel 400 and Nickel 200 material for this application.

The metal media can be thoroughly cleaned and eliminates the potential of media shedding, as it is the case with polymeric media. The cartridges are sized to ensure a single-piece construction to handle 100% of the required flow rate while meeting the customer's specified low media velocity.

Project Overview:

Porvair supplied cartridges constructed of Nickel 200 pleated mesh complete with PTFE O-Ring. The cartridge has a total filtration area of 54 square feet to achieve the media velocity required for the project. The effective filtration area can be increased as necessary to meet the lowest media velocities require for these applications. In some cases, the required media velocity can be less than 1ft/s.

Product and System Information:

The latest supply is several Sinterflo® M pleated cartridges constructed of Nickel 200 mesh complete with PTFE O-Rings. The cartridges and the O-Rings are cleaned for O2 service per the specifications.

Other Opportunities:

This technology can be utilized on all applications for specialty gases (O2, N2, H2, CO2, etc.) where non-shedding media and special cleaning are required. These applications can be found in refineries, chemical plants, and specialty gases producers.

