MWV NUCHAR® POWDERED ACTIVATED CARBON INCREASES MEMBRANE LONGEVITY & PERFORMANCE

How do MWV Nuchar® Powdered Activated Carbons Compliment Membrane Water Treatment Processes?

Membranes separate small size particulates from water; however, the membranes ability to remove dissolved organics from water is relatively weak. Nuchar powdered carbons, with high pore volume and surface area, have excellent adsorption capabilities for a variety of dissolved organics, thereby complimenting membrane water treatment processes.

MWV NUCHAR POWDERED CARBONS

Nuchar wood-based powdered activated carbons are the carbons of choice for ultrafiltration membrane water treatment plants. The low abrasion of Nuchar carbons causes less attrition of ultrafiltration membranes and enables longer membrane life.

Treatment with Nuchar carbons enables better tasting and cleaner water by adsorbing unpleasant taste, odor, color, TOC, and other impurities. Nuchar powdered carbons have been used for many years in the U.S. drinking water industry.

MWV Specialty Chemicals has over 90 years of activated carbon experience and technical expertise. MWV domestically manufactures wood-based activated carbon from renewable tree resources at facilities in Covington, VA, and Wickliffe, KY. The carbon products meet the following requirements:

- ANSI/AWWA B600-05
- NSF/ANSI Standard 61
- Food Chemicals Codex

Nuchar powdered carbon causes less abrasion and fouling of membranes. Lower membrane fouling means more time between cleaning; less abrasion leads to longer membrane life – both are operational and economic benefits.

CARBON ABRASION DATA

POWDERED CARBON	GOLD OR MILLER NUMBER* ASTM G75
MWV NUCHAR WOOD-BASED CARBON	0.09 – 0.10
OTHER ACTIVATED CARBONS	4.2 AVERAGE UP TO 23

LESS ABRASION IS INDICATED BY A LOWER GOLD'S NUMBER. NUCHAR POWDERED CARBON HAS PROVEN LOW ABRASION IN PLANT-SCALE MEMBRANE OPERATION.

*Results are from a third party laboratory. The Gold Number is being added to ASTM G75 for accurate measurement when the Miller Number is less than 20. The relative abrasive wear of slurries is measured by subjecting a wear specimen to a reciprocating motion in the slurry and measuring the specimen mass loss over time.

COMPARISON OF TYPICAL CARBON PROPERTIES

Carbon Type	Surface Area m^2/g	Pore Volume mL/g	Ash Content wt%	Iodine Number mg/g
Nuchar Wood-Based Carbon	1200 - 1800	1.2	4 - 6	900 - 1200
Coal-Based Carbon	800 - 1000	0.5	4 - 10	800 - 1100
Lignite-Based Carbon	400 - 600	0.5	30 - 35	400 - 600

Nuchar Activated Carbon has the largest pore volume and surface area which enables adsorption of organics. Nuchar has the lowest ash content, so pipe and process scaling will not occur.