

Case Study

Filtration Performance: Turbidity & SDI Reduction, Particle Analysis nextSand vs. MultiMedia.

Test Conditions

Water Source: Surface water (river water with silt and clay particles after a rain event in San Antonio).

Equipment Description.

Multimedia System. 36” bed depth comprised of #16 Garnet, #50 Garnet, 20x30 mesh sand and anthracite, operated at 12 gpm/ft².

next-Sand System. 1/4x1/8 gravel to cover hub and laterals, 36” bed depth of 14x40 mesh next-Sand operated at 12 gpm/ft².

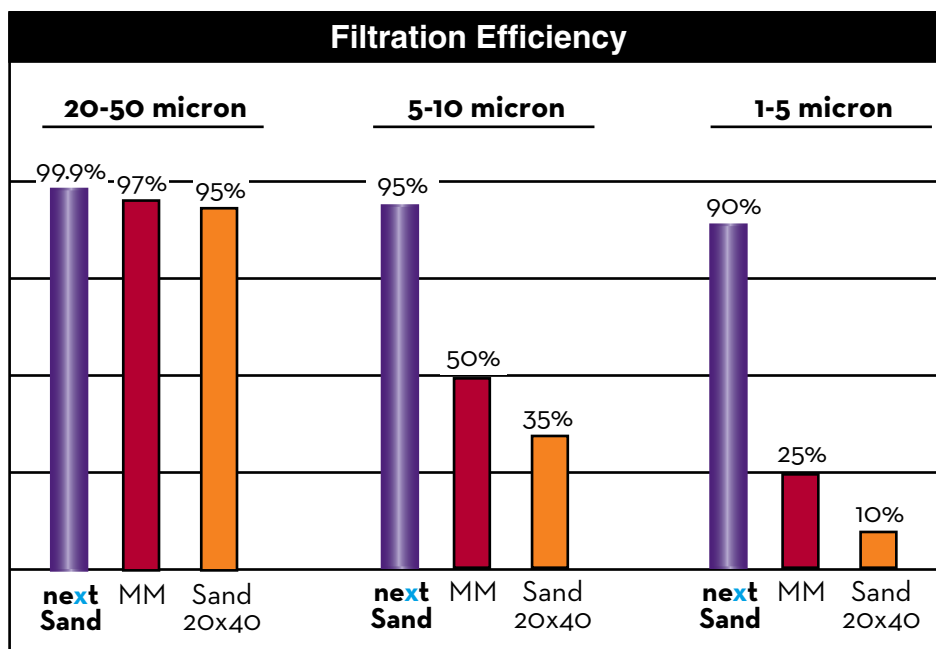
Test Description.

The tests were conducted over a 6 day period. Samples were taken daily. The tests performed were Turbidity, SDI (Silt Density Index) and particle analysis to characterize the filtration performance relative to particle size.

Test Results

Table 1. Filtration Performance-Colloidal Removal (TSS and SDI)

	Feed	MultiMedia	Feed	next-Sand
Turbidity	237	171	252	90
SDI₁₀	8.1	6.1	8.9	4.1



Conclusion

The particle analysis showed that next-Sand media performed as well as or better than most 5 micron cartridge filters. next-Sand operated at 1/2 the backwash frequency indicating twice the solids loading capacity of multimedia.