

COMPANY PROFILE:

EXCEL LINEN SUPPLY
LOCATION: KANSAS CITY, KS
INDUSTRY: LAUNDRY

PRE-INSTALL STATS:

CONSUMING - DAF
APPROXIMATELY 12,000 GPH
ANNUAL WATER CONSUMPTION
24,737,856
CURRENT COST OF WATER
(\$/YR)
\$497,137.09

SAVINGS:

CONSUMING - CMF/RO
APPROXIMATELY 12,000 GPH
ANNUAL WATER CONSUMPTION
4,947,571
NEW COST OF WATER (\$/YR)
\$73,885.19
RECOVERED HEAT (MBTU/YR)
8,420,714,207
VALUE OF HEAT RECOVERED
\$29,893.54
ANNUAL SAVINGS (\$/YR)
\$453,145.44
ROI
26 MONTHS

SYSTEM:

- 2-STAGE FILTRATION SYSTEM
- CERAMIC MICROFILTRATION (CMF)
- REVERSE OSMOSIS (RO)

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COMPANY DESCRIPTION

Excel Linen Supply in Kansas City is the largest supplier of linens to the food and beverage industry in Kansas City and surrounding areas. After relocating their plant they were faced with very high waste water surcharges. They already had in place a Kemco DAF (Dissolved Air Flotation System) as their main treatment process. This system kept Excel in compliance with the local waste water treatment standards as far as prohibited contaminants were concerned but did not reduce enough of the dissolved contaminants to eliminate surcharges.*

PROJECT DESCRIPTION

After extensive pilot testing and evaluating various treatment technologies Excel made the decision to install a Kemco Ceramic Microfiltration System (CMF) followed by a Reverse Osmosis (RO) system. The CMF removes all the prohibited contaminants: fats, oils, greases and suspended solids by filtration and does not require any treatment chemicals. However there are still dissolved contaminants in the water such as BOD/COD and surfactants. These contaminants, while not prohibited in the sewer system are subject to surcharges. Water from laundries almost always exceeds these limits and incurs substantial surcharges.

The RO system removes these dissolved contaminants to a level at which, if the water were to be discharged, would incur no surcharges. Moreover the quality of the water is so good that it can be recycled back into the laundry for all stages of the washing process. In fact the water from the RO is better than the incoming city water since it contains no hardness and is still warm.

Kemco provided the system on a "Turn Key" basis and was responsible for mechanical, electrical, piping design, rigging and installation. Electrical power wiring was done by a local contractor.

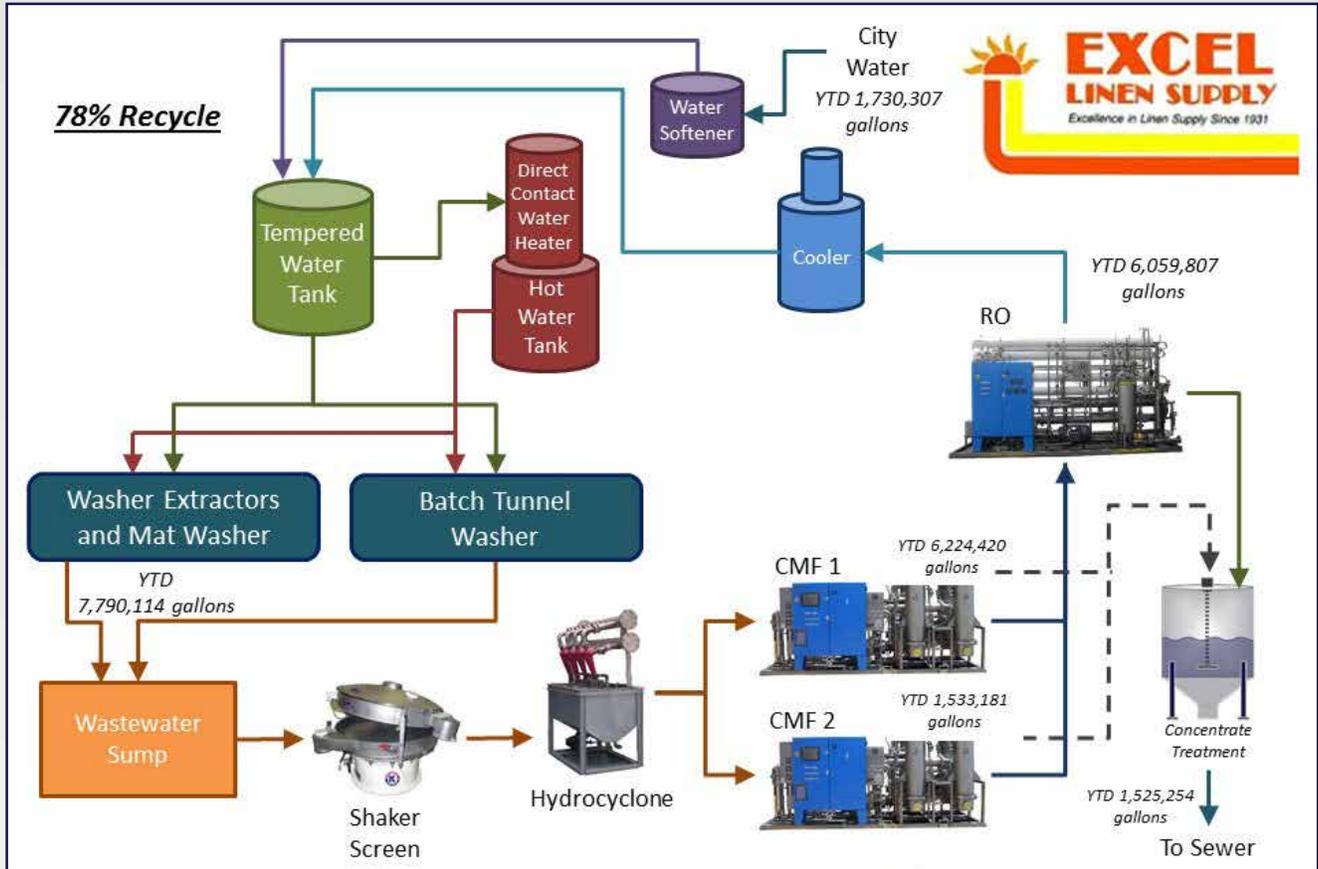
Currently Excel is recycling about 80% of the water that would have normally gone to the sewer. They have also eliminated the waste water surcharges and enhanced their company's sustainability initiatives.



Ceramic Microfiltration System (CMF)

* A DAF system will remove fats, oils, greases and suspended solids but not much in the way of TDS (total dissolved solids).

WATER SYSTEM FLOW DIAGRAM



EXCEL LINEN TEST RESULTS

PARAMETER	RAW*	CMF*	RO*	REMOVED %
OIL & GREASE	69	4.0	1.0	98%
TOTAL SUSPENDED SOLIDS	275	15	10	96%
CHEMICAL OXYGEN DEMAND	3,020	370	NON-DETECT	99+%

*RESULTS IN MG/L