



Sugarcane Juice clarification by KERASIEV® Ceramic membrane

Sugarcane Juice clarification is an important process in Sugar manufacturing (pre-crystallisation process). This process is carried out by age-old 19th century conventional process including chemical addition etc. These old process are time consuming, energy inefficient, require huge foot print and involve huge mechanical infrastructure adding up to high maintenance. With the advance in material science and engineering in the 21st century, separation science and technology has also evolved. Ceramic membrane is considered as the 3rd Generation membrane technology in Separation science. One drawback of Ceramic membrane is it's manufacturing process. It is high energy intensive process, which make's it capital intensive.

The new KERASIEV® ceramic technology is the most economical ceramic membrane technology in the market. With it's high RoI, it earned the title of *4th Generation membrane* technology especially in various industrial applications. With respect to the Sugar clarification, KERASIEV® ceramic membrane technology is considered imperative.

KERASIEV® membrane used in Sugarcane Juice clarification filter's bacteria and other micro contaminants/TSS, colour etc. for increasing its self and quality before crystallisation. Cost of ownership reduces by 1/3th.

The trial taken in

Trail taken in a Sugar factory, Daurala, Meerut, UP with KERASIEV Ceramic Membrane below:

Sugar clarification trial with KERASIEV Ceramic Membrane (08.02.19)

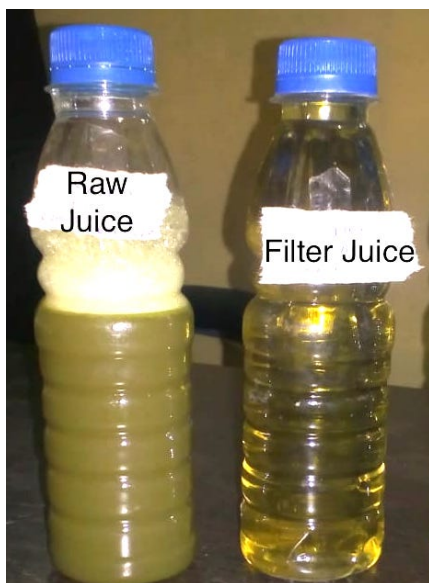
Samples	Brix	Pol
Feed	17.92	14.73
Permeate	17.41	14.66

Items	Feed	Permeate
Colour	14495 IU	10330 IU
	1050	1100
CaO	PPM	PPM
P2O5	563 PPM	403 PPM
R.S	0.49%	0.42%
Dextron	420 PPM	350 PPM
Turbidity	2.318	0.023
Transmittency	0.4	94.35

Sugar Cane juice filtration study:

Pump	2.2m ³ /20mts		
Flow velocity	0.3m/s		
Pressure	1kg/cm ²		
Sample	120ml		
Membrane pore size	0.03micron		
Time (pm)	time (sec)	Flux (LMH)	
	1.3	47	12.8
	1.45	50	11.518848
	2	55	10.47168
	3.25	63	9.141942857
	3.4	66	8.7264
	4.1	69	8.346991304
	4.25	76	7.578189474
	4.4	78	7.383876923
	5	80	7.19928
5.45*		60	9.59904
	6	68	8.469741176

* Backwash



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