

Case Study – 4

Wall and Floor tile manufacturing industry, reusing 100% of sludge generated in wet grinding operation for tiles body

Implementing
the technology

Before:

- The effluent generated in the plant was sent for treatment in the Effluent Treatment Plant and the sludge generated after the treatment was sent for disposal in TSDF. The sludge did not have much impurity, but the recyclable value of the sludge was not being considered.



After:

- The sludge generated after the treatment in ETP is stored open to environment for evaporation, and after drying, the sludge is reused in the manufacture of tile body as a raw material along with the fresh raw material.
- After taking this step, industry is now mixing the sludge formed from the ETP in small quantum to mix it with the raw material formation in the slip preparation stage.
- The wall and floor tiles are completely natural products with only physical operations involved in the manufacturing; hence the addition of small quantum of ETP sludge in the slip preparation for the tile body along with the virgin raw material does not alter the quality of the tile body.

	<ul style="list-style-type: none"> The sludge is wet grinded in the ball mill along with the raw materials. <div style="display: flex; justify-content: space-around;">   </div>
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Benefits	
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Environmental	<p>Before:</p> <ul style="list-style-type: none"> The sludge of ETP was sent to the TSDF for disposal, increasing the load of solid waste in the environment. The major part of the sludge contained the waste glaze, containing chemicals used for glaze preparation, harmful for the environment as well as human health 	<p>After:</p> <ul style="list-style-type: none"> As the sludge is being recycled in the process, the load of solid waste disposal on the environment decreased considerably Also leading to decreased health harms to the associated people Savings in material: 385.5 MT per annum
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Economical	<p>Before:</p> <ul style="list-style-type: none"> Considerable amount of the economy was lost in the sludge, as it contained processed raw material. Company had to pay fees for the disposal to the TSDF <p>After:</p> <ul style="list-style-type: none"> Recycling of sludge led to decrease in the raw material consumption Company had to pay Zero amount for the disposal of sludge
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