

# Comparison of Different Types of Cement Manufacturing

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## *Abstract*

In this paper we are discussing wet and dry methodology of Portland solid collecting. Wet methodology minerals are wet ground to shape a slurry and in dry technique minerals are dry ground to outline a powder like substance. In this paper, we are discussing the connection between's wet methodology and dry technique with various central focuses and insults.

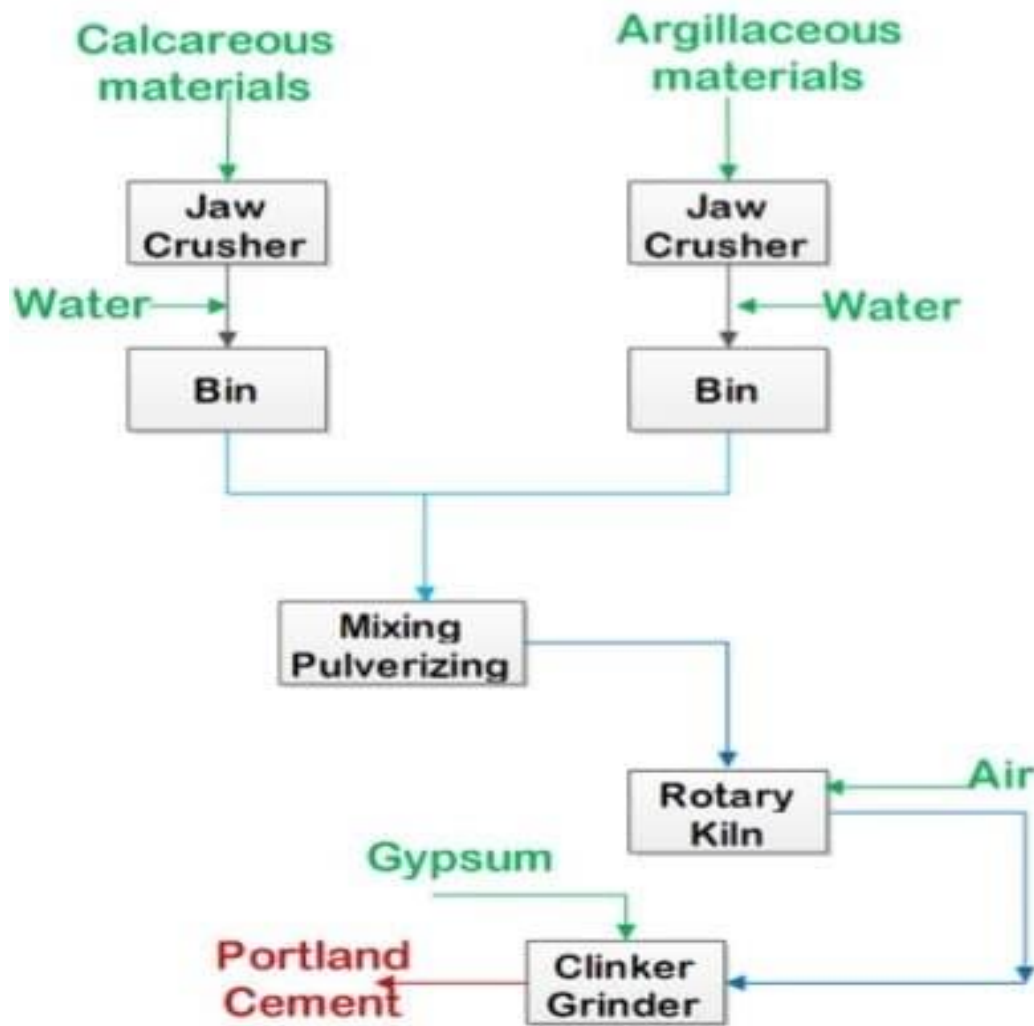
*Keywords: slurry, Portland cement, lime stone etc.*

## I. INTRODUCTION

There are two types of process for manufacturing the cement are shown in below.

### **Wet process**

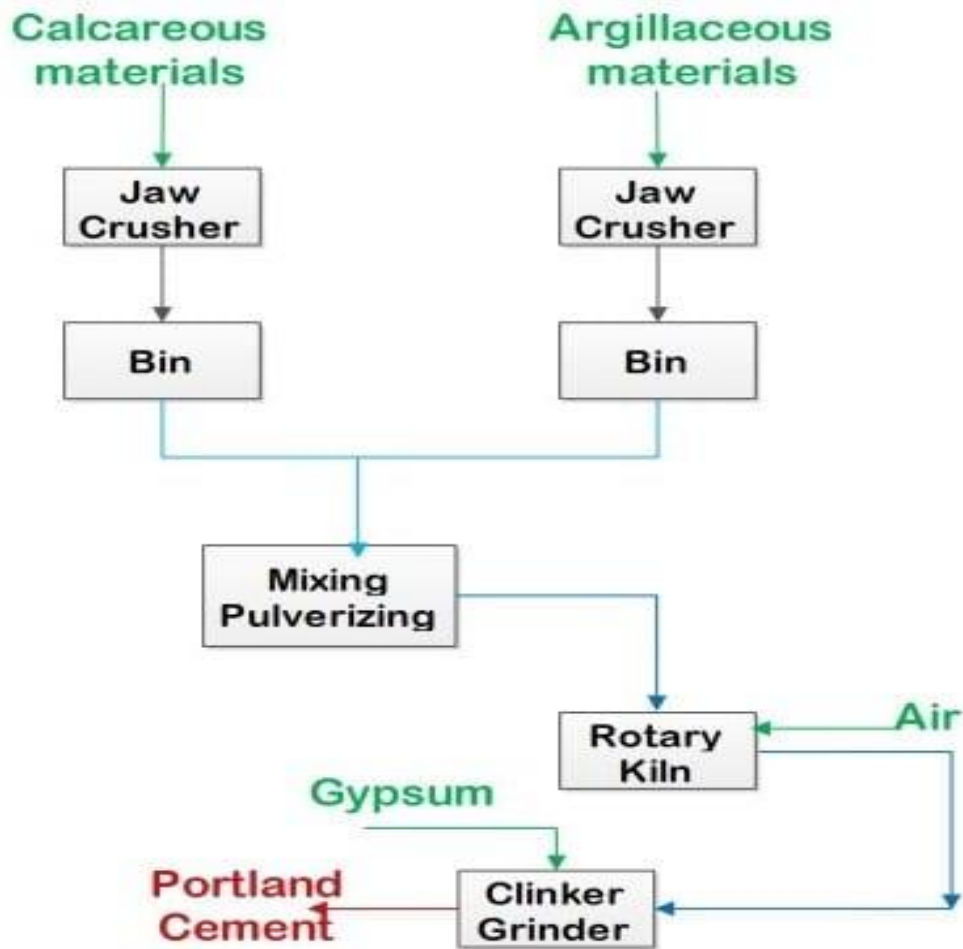
Unrefined materials are mix in wash plant by 35 to half water. The current Materials are known as slurry that have stream limit features. The stove size that are required for created of cement is higher so the unrefined material can be mixed effectively that is the explanation well similar kind of material can be acquired. The creation cost of wet method is high and capital cost is reasonably less.



**Fig 1: Manufacture of Cement by Wet Process**

### Dry process

In the dry process, raw material is mixed in mixers. This dry material is also known as kiln feed. The kiln size required for built-up of cement is smaller so it is difficult to control raw materials mixing and it is also challenging to find a well-similar material. The production cost is less and capital cost is relatively high because of the blender.



**Fig: Manufacture of Cement by Dry Process**

Table 1

Raw materials for Portland cement manufacture

Calcareous Materials	Argillaceous Materials			
	Calcium	Silicon	Aluminum	Iron
Limestone	Clay	Clay	Clay	
Marl	Marl	Shale	Iron ore	
Calcite	Sand	Fly ash	Mill scale	
Aragonite	Shale	Aluminum ore refuse	Shale	
Shale	Fly ash		Blast furnace dust	
Sea Shells	Rice hull ash			
Cement kiln dust	Slag			

## II. DIFFERENCE BETWEEN DRY PROCESS AND WET PROCESS

S.no.	Wet process	Dry process
1.	When raw material is soft then this method is used	When raw material is hard then this method is used
2.	The raw material are changed to powdered form in the presence of water	The raw material are changed to powdered form in the of absence water
3.	cement produced-26%	cement produced-74%
4.	kilns high fuel needed	kilns less fuel needed
5.	Less Economically	More Economically
6.	Need of maintenance is less	Need of maintenance is high
7.	Raw material can be easily mix	Raw material cannot be easily mix
8.	Production cost high	Production cost less
9.	Capital cost is less	Capital cost is less

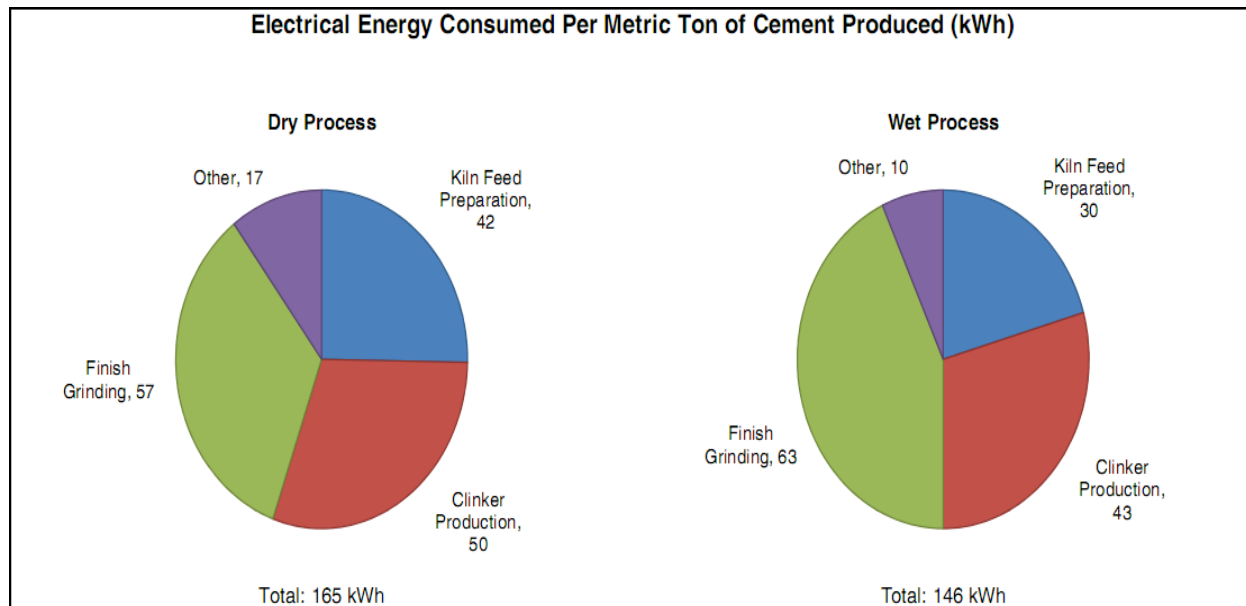


Fig 3: Electrical energy consumed by both process

### III. CONCLUSION

In this paper we have discussed about the wet and dry cement manufacturing process. And also we have discussed about various raw materials for Portland cement manufacture. This paper shows the comparison between wet process and dry process with various advantages and disadvantages.

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