DOLOMITIC LIMESTONE & LIME FROM TURKEY

OPTIMUS ENGINEERING

ISTANBUL

DOLOMITIZATION

- ✓Earth's crust contains more than 4% Calcite
- ✓Dolomite is formed when Calcite ($CaCO_3$) in mud or limetsone is modified by magnesium-rich ground water
- ✓Available MgO converts Calcite ($CaCO_3$) into Dolomite ($CaCO_3.MgCO_3$)
- ✓This chemical change is known as dolomitization
- ✓Dolomite is slightly harder than regular limestone
- ✓Dolomite contains 54%$CaCO_3$ and 46%$MgCO_3$ or 30%CaO and 22%MgO
- ✓In nature 40-45% $MgCO_3$ rock is called dolomite whereas 20-40% $MgCO_3$ is called dolomitic limestone

USE of DOLOMITIC LIME

- Flux agent in Iron-Steel Industry
- Whitener in paper industry
- Filler in Paint industry
- Strengthener in construction technologies
- Filtration agent in fume gas control and filtration processes
- pH modifier in water industry
- Agricultural applications as soil improvement and stabilizer
- Ceramic industry to form high quality glaze
- Additive in Cement Industry & Glass Industry
- Refractory industry

DOLOMITIC LIME USE IN STEELMAKING

- ✓Dolomitic lime is used as slag former or slag modifier in steel making
- ✓It is charged with other raw materials or additives into the EAF
- ✓Dolomite is first decomposed into CaO+MgO
- ✓Then they combine with gangue material coming from scrap such as Alumina, Silica along with Sulphur and Phosphorus to form slag
- ✓Further dolomite reacts with Sulphur present in the raw materials to form CaS which goes also into the slag
- ✓Small particles of quality dolomitic lime delivered into the molten slag/metal interface quickly dissolve providing steelmaker very responsive control of slag chemistry

DOLOMITIC LIME USE IN BOF PROCESS

- ✓Dolomitic lime is also used in BOF process
- ✓Phosphorus (P) and Sulphur (S) is removed from liquid pig iron with the addition of dolomitic lime into the converter
- ✓It also helps slag modification to maintain the MgO levels
- ✓Apart from above, dolomitic lime also helps for Slag Splashing Method in the BOF process

DOLOMITIC LIME USE in STEELMAKING APPLICATIONS

- ✓In stainless steelmaking dolomitic lime is used in the Argon Oxygen Decarburization (AOD) furnace
- ✓Dolomitic lime is also used in Ladle Metallurgy Furnace (LMF) and Vacuum Degassing Process (VOD) to make steel cleaner

ADVANTAGE OF DOLOMITIC LIME

- ✓High quality dolomitic lime helps steelmakers maintain the refractory life of their furnaces
- ✓High MgO content in dolomitic lime saturates the slag and makes it basic
- ✓Slag does not attack refractory lining which is also high MgO-C brick
- ✓Hence lifetime of refractory bricks are increased
- ✓Quality dolomitic lime also helps steelmakers to control the energy costs at EAF, BOF, LF and AOD

DOLOMITIC LIME by OPTIMUS

- ✓Optimus have reliable sources of high grade dolomitic lime
- ✓Our quarries are located in South-East region of Turkey at Toros Mountains skirts where thick sequences of high grade dolomitic limestone is available



DOLOMITIC LIME by OPTIMUS

High quality dolomite is extracted and loaded to the trucks by our excavators.

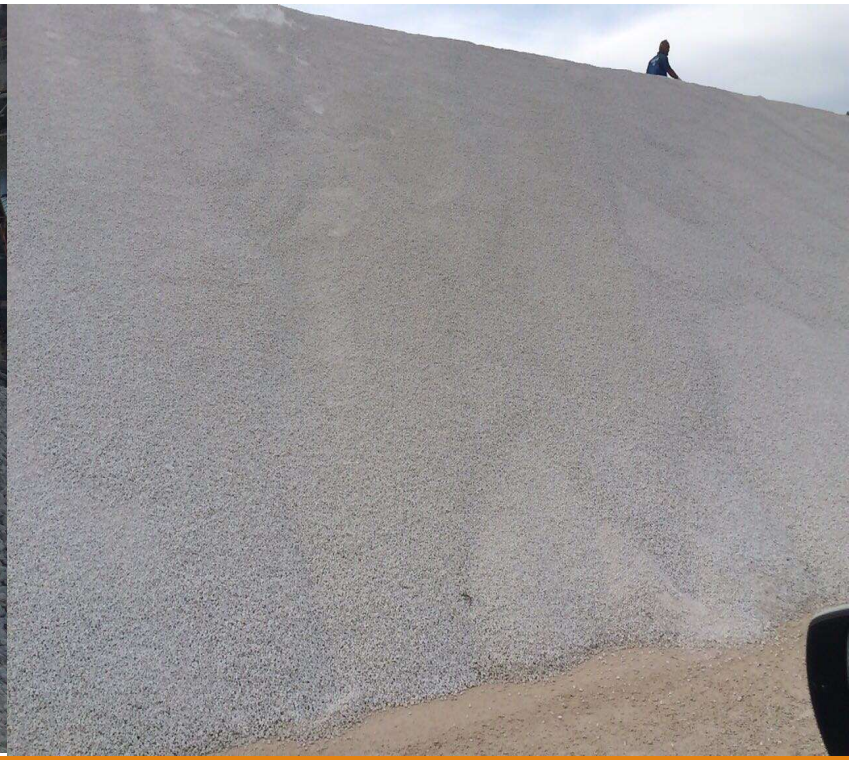




DOLOMITIC LIME by OPTIMUS

Then dolomite is crushed, seeved and classified at our stock area.





DOLOMITIC LIME by OPTIMUS

- Self-owned truck filo make the transport and handling easier and faster
- Our quarries are also close to the port. Hence logistics and dispatch is easy for us.



DOLOMITIC LIME by OPTIMUS

Material handling, bulk shipment from the truck to the vessel is done with great care





COARSE & FINE DOLOMITE SPECIFICATION

		COARSE DOLOMITE		FINE DOLOMITE	
L.O.I	(max)	48.25%		48.25%	
H2O	(max)	2%		2%	
CaO	(min)	30,60%		30,60%	
MgO	(min)	20,50%		20,50%	
SiO2	(max)	0.05%		0.05%	
Al2O3	(max)	0,07%		0,08%	
Fe2O3	(max)	0,18%		0,20%	
S	(max)	0,2%		0,2%	
P	(max)	0,015%		0,015%	
Grains		<20mm	5% max	<3/8”	95%min
		20-50mm	85%min	>3/8”	5%max
		50-60mm	10%max		
		>60mm	0%		

DOLOMITIC LIME by OPTIMUS

Optimus Engineering thanks you for your time and attention.

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