GYPSOS




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GYPSOS

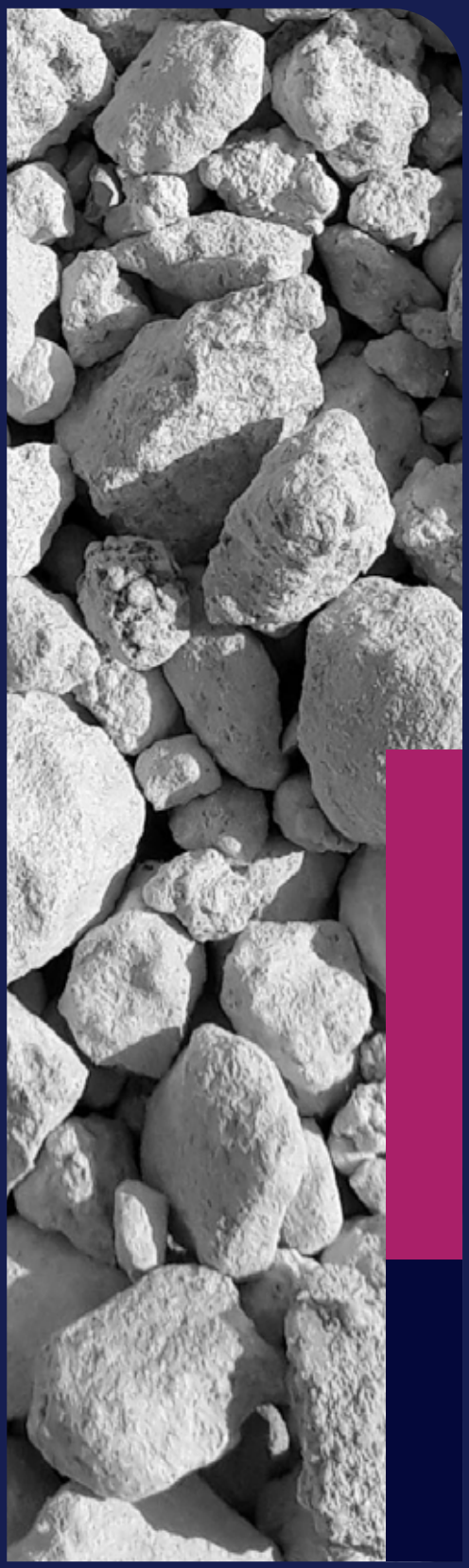
CERTIFIED, ECO FRIENDLY ANHYDRITE BASED GYPSUM EXTRAORDINARILY SUITABLE FOR BUILDING, CEMENT AND FERTILIZER INDUSTRIES.

Its physical-mechanical features, easy to adjust according to specific needs, the production process and the laying technology, give best performances in the creation of products with a high surface/volume ratio.

GYPSOS is available in 3 versions

- RAW
- MILLED
- GRANULAR





GYPSOS **for Cement industry**

GYPSOS by FLUORSID is an extraordinary alternative to natural gypsum, FGD gypsum and phosphogypsum. It is used in the cement industry as an additive to regulate setting time.

Due to its extremely high anhydrite content and the minimum concentration of impurities, the quantity of SO_3 per tonne of material is the highest compared to the other natural or chemical gypsums. Its use therefore allows a reduction in specific consumption of calcium sulphate based raw materials used in the production of cement.

Chemical quality and purity of GYPSOS by FLUORSID are very high and stable, thanks to the constancy and stability of the raw materials used for its production and the frequency and peculiarity of the analytical and process controls performed during the production process.

The particle size distribution of GYPSOS produced by FLUORSID can be adjusted according to any cement plant needs.

FLUORSID

GYPSOS **for Building industry**

GYPSOS is widely used in the building industry for the production of self-levelling screeds.

GYPSOS is an excellent alternative to cement in the industrial production process across most non-structural concretes and mortars.

GYPSOS is commonly used as a binder in indoor applications as plasters, blocks for fire system solutions and aerated concrete.





GYPSOS **for Fertilizer industry**

GYPSOS, due to its high content of SO_3, is an excellent raw material for the fertilizers' production.

GYPSOS based fertilizers help to improve the soil structure and workability. Increasing calcium, they also balance the uptake of nutrients and minerals.

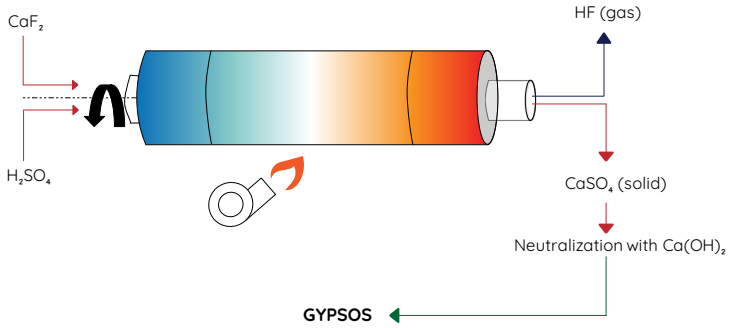
RAW GYPSOS

THE PRODUCTION PROCESS

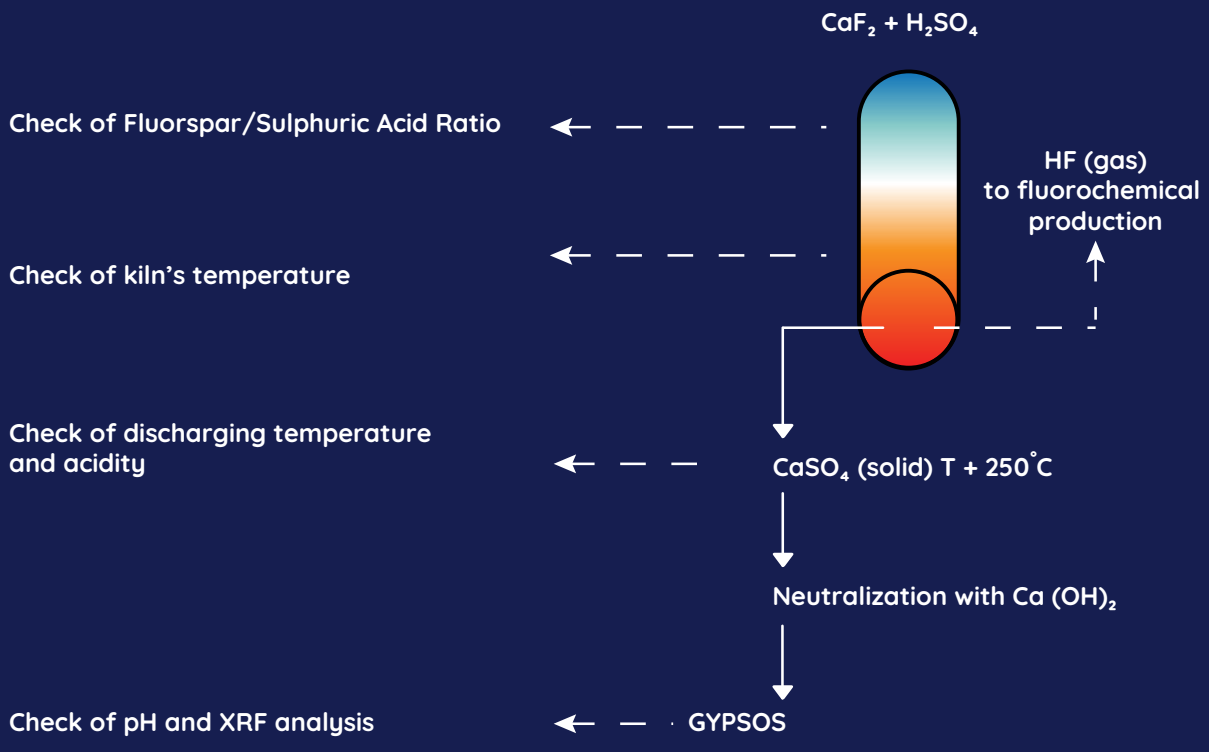
Gypsos is Anhydrite ($CaSO_4$) obtained from the reaction of dried acid grade Fluorspar (CaF_2 97%) and Sulphuric Acid (H_2SO_4) during the production of Hydrogen Fluoride (HF):

CaF_2 (solid) + H_2SO_4 (liquid) —› 2HF (gas) + $CaSO_4$ (solid)

and consequent neutralization with lime



GYPSOS: THE PROCESS CONTROL



RAW GYPSOS

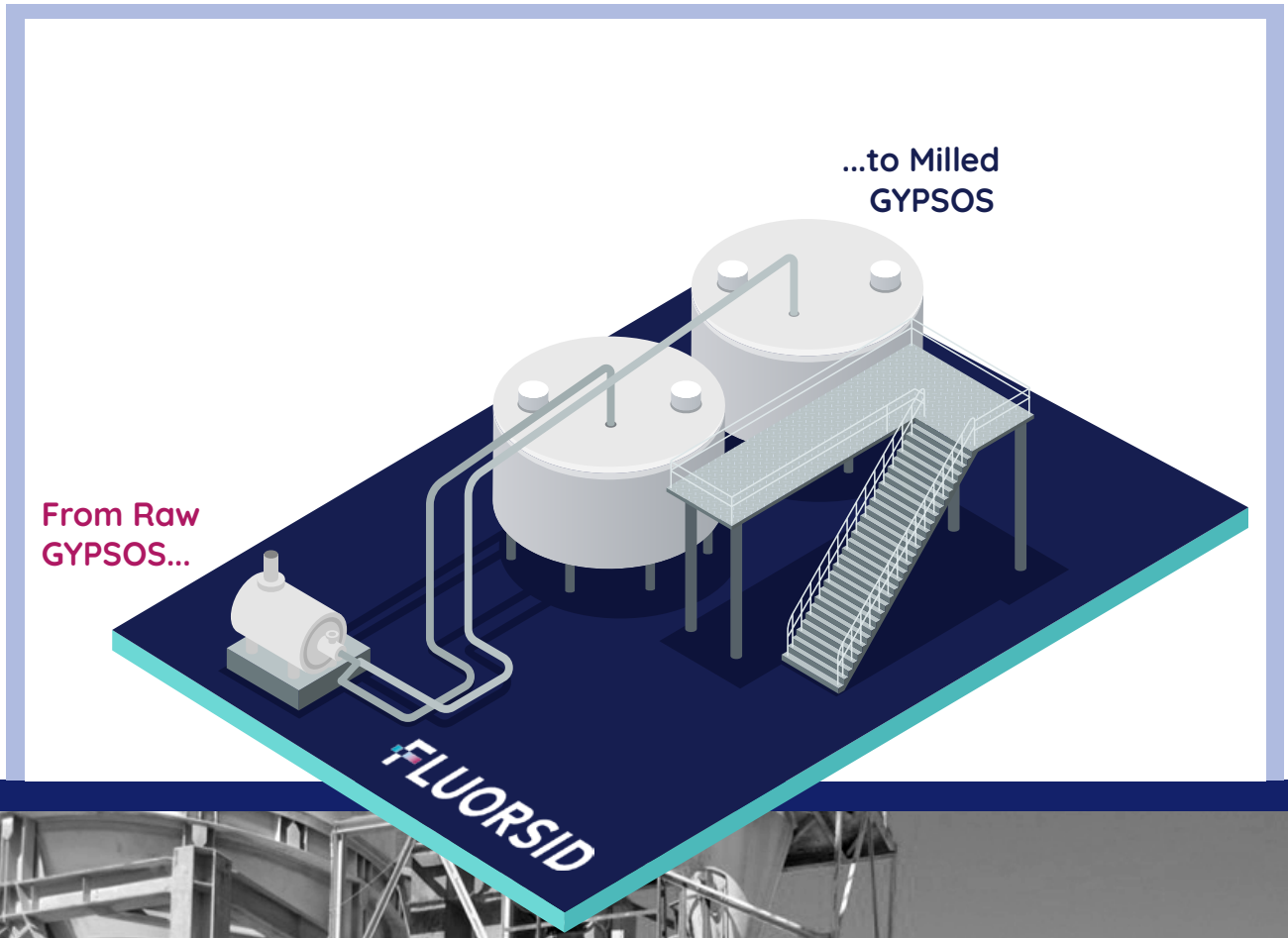
PARAMETER	UNIT	GUARANTEED VALUE		TYPICAL VALUE	ANALYTICAL METHOD
		Min	Max		
$CaSO_4$*	%	93		97	Calculation
SO_3*	%	54		57	XRF
CaF_2	%		3	2	XRF
SiO_2	%		0,8	0,2	XRF
K_2O	%		0,2	0,010	XRF
MgO	%		0,5	0,10	XRF
Fe_2O_3	%		0,5	0,10	XRF
Al_2O_3	%		0,5	0,15	XRF
$Ca(OH)_2$	%		1	0,9	Titration
H_2O 110°C	%		2	1	Thermogravimetric
H_2O 360°C	%		2	1	Thermogravimetric
pH	%	10		11	Potentiometric

* Data based on sample treated at 360°C after dried at 45°C

PHYSICAL PROPERTIES	UNIT	TYPICAL VALUE	ANALYTICAL METHOD
Particle Size distribution			Dry Sieve Analysis
< 30 mm	%	100	
< 5 mm	%	85	

PRODUCTION CAPACITY: ABOUT 300.000 MT/yr

MILLED GYPSOS





MILLED GYPSOS

PARAMETER	UNIT	GUARANTEED VALUE		TYPICAL VALUE	ANALYTICAL METHOD
		Min	Max		
$CaSO_4$*	%	93		97	Calculation
SO_3*	%	54		57	XRF
CaF_2	%		3	2	XRF
SiO_2	%		0,8	0,2	XRF
K_2O	%		0,2	0,010	XRF
MgO	%		0,5	0,10	XRF
Fe_2O_3	%		0,5	0,10	XRF
Al_2O_3	%		0,5	0,15	XRF
$Ca(OH)_2$	%		1	0,9	Titration
H_2O 110°C	%		2	1	Thermogravimetric
H_2O 360°C	%		2	1	Thermogravimetric
pH		10		11	Potentiometric

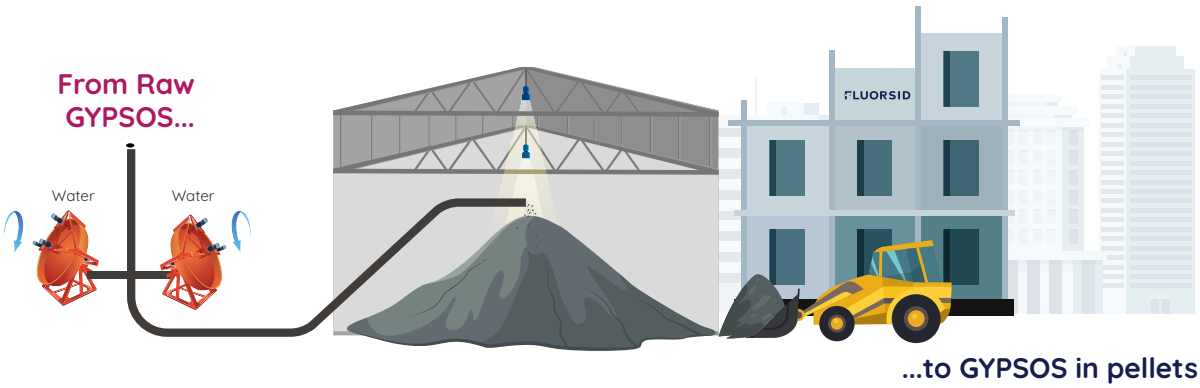
* Data based on sample treated at 360°C after dried at 45°C

PHYSICAL PROPERTIES	UNIT	GUARANTEED VALUE		TYPICAL VALUE	ANALYTICAL METHOD
Particle Size distribution	%	Min	Max		Dry Sieve Analysis
> 0,425	%		5	2	
> 0,090	%	15	25	16	
< 0,090	%	75	85	84	
Flow test	cm	Min	Max		Test Gyps-union
at 1 min		24	28		
at 45 mins		20	24		

PRODUCTION CAPACITY: ABOUT 8MT/h

CE Approved

GRANULAR GYPSOS





GRANULAR GYPSOS

PARAMETER	UNIT	GUARANTEED VALUE		TYPICAL VALUE	ANALYTICAL METHOD
		Min	Max		
$CaSO_4$*	%	93		97	Calculation
SO_3*	%	54		57	XRF
CaF_2	%		3	2	XRF
SiO_2	%		0,8	0,2	XRF
K_2O	%		0,2	0,010	XRF
MgO	%		0,5	0,10	XRF
Fe_2O_3	%		0,5	0,10	XRF
Al_2O_3	%		0,5	0,15	XRF
$Ca(OH)_2$	%		1	0,9	Titration
H_2O 110°C	%		10	5	Thermogravimetric
H_2O 360°C	%		10	5	Thermogravimetric
pH	%	10		11	Potentiometric

* Data based on sample treated at 360°C after dried at 45°C

PHYSICAL PROPERTIES	UNIT	TYPICAL VALUE	ANALYTICAL METHOD
Particle Size distribution			Dry Sieve Analysis
> 50 mm	%	0	
> 18 mm	%	35	
> 10 mm	%	50	
> 4,76 mm	%	14	
> 1 mm	%	1	

PRODUCTION CAPACITY: ABOUT 25 MT/h



Fluorsid produces about 500.000 MT/Yr of Gypsos in its 4 production Plants

GYPSOS	FLUORSID	FLUORSID ALKEEMIA	FLUORSID ICIB	FLUORSID NORALF
RAW	120.000 MT/Yr			90.000 MT/Yr
MILLED	30.000 MT/Yr	50.000 MT/Yr	10.000 MT/Yr	
GRANULAR	160.000 MT/Yr	70.000 MT/Yr		

GYPSOS RAW is shipped from Cagliari (Italy) and Odda (Norway) ports by conventional Vessels. For small lots to the local markets, GYPSOS RAW can also be delivered by bulk trucks.

GYPSOS MILLED is usually delivered by silo-trucks of about 30MT each. For smaller lots and testing purposes the product may be provided in Big Bags too.

GYPSOS GRANULAR is delivered by bulk trucks to the Italian market and by conventional Vessels (up to 50K MT) to the international markets from Cagliari Port.

ENVIRONMENT & SUSTAINABILITY

We strongly want to ensure our industrial activity within a global perspective. That's why **our relentless commitment in R&D is aimed to embrace the principles of the circular economy model and environmental sustainability.**



GYPSOS allows the producers to significantly reduce the presence of anhydrite mines and quarries avoiding their local environmental impact.



WHO WE ARE

ESTABLISHED IN

1969

FULL INTEGRATED

FLUORINE VALUE CHAIN

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PLANTS/SITES ACROSS EUROPE

GYPSOS is a product of Fluorsid, established in 1969 in Sardinia and through its different plants and mines across Italy, Norway and UK is covering the entire fluorine value chain.

From the extraction of fluorspar to its derivative products, Fluorsid is the fluorspar's major buyer and the largest producer of HF and aluminium fluoride of the western world.

Highly committed in pursuing quality and respect for the environment, Fluorsid is also one of the world's foremost producers of anhydrite for the building industry, the largest Italian supplier of synthetic gypsum to the cement industry and an important producer of sulphuric acid.

Fluorsid exports over 80% of its products across dozens of countries worldwide.

Fluorsid belongs to Fluorsid Group.


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ISO 9001: 2015
ISO 14001: 2015
ISO 37001: 2016
OHSAS 18001: 2007

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