

CAUSTIC MAGNESIA FOR ANIMAL FEED

 MADE IN
 AUSTRIA



STYROMAG®

Styromagnesit Steirische Magnesitindustrie GmbH



Who we are

Since the beginning of the 20th Century we dig for Styrian Magnesite for further processing into caustic calcined magnesite (MgO) in our own mines. This caustic calcined magnesite is kilned soft (caustic) in fluidized bed ovens and multiple hearth furnaces.

We have experience in Oberdorf for more than 100 years, and also sources and modern technology to work effectively and successfully for the next 100 years.

Our magnesite products

Our goal is to produce natural products, in turn, the nature or the natural needs of the people serve themselves.

We produce approximately 32,000 tonnes of magnesium oxide per year.
14,000 tonnes are for animal feed.

Our current product divisions:

- Grindstone
- Industrial Coatings
- Brake Pads
- Mining backfill and assurance
- Fertilizers and animal feed
- Pulp
- Fire Protection
- Wastewater treatment plants
- Beverage stabilizer
- Biocatalyst

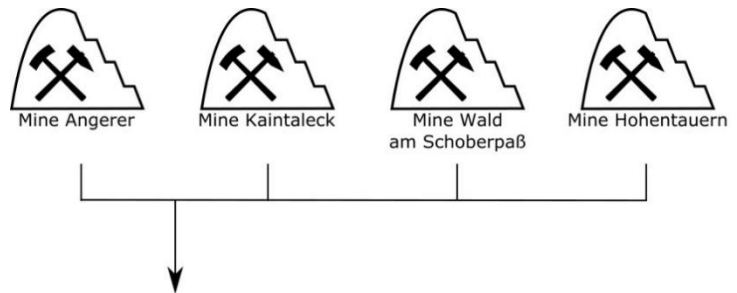
As a privately owned resource company we pursue the philosophy with our environment – not against the environment – with the people, with our customers, suppliers, employees and neighbours, in mutual respect and respecting ethic principles in order to have a long-term successful economy.



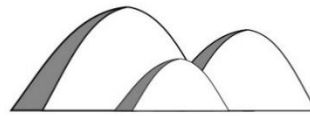
Manufacturing process

Mining

Raw magnesite extraction
QM rough stone grading
Coarse crushing 0-150 mm



Rough stone storage quarry



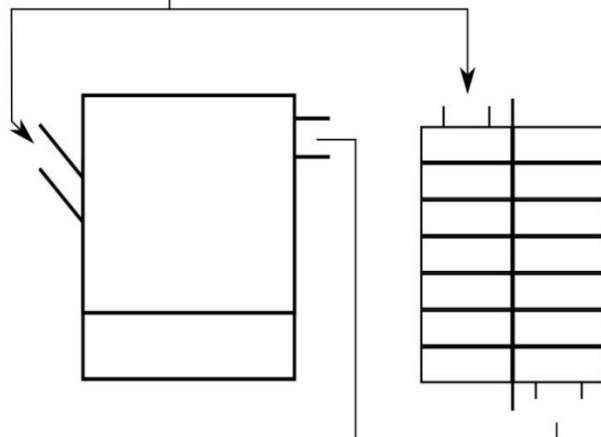
Rough stone processing

drying and crushing < 8 mm
sampling QM



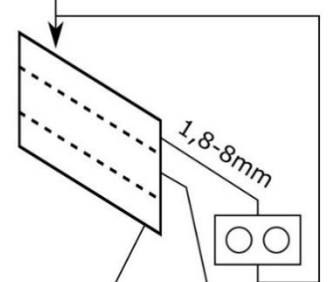
Fired in fluidized bed (FBC) furnace – and multi-deck oven (MDO)

Feed 0.3-8 mm
Sampling QM (FBC)
Furnace firing with natural gas



Screening of the MDO production

for 0.1-1.8 mm
Sampling QM (MDO)



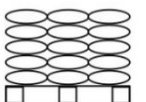
DF80F
(0-0,2mm)

DF83F
(0-0,25mm)

DF83G
(0,1-1,8mm)

Packing and shipping

Silo truck, big bags, 25kg paper bags
Sampling QM dispatch (analysis) certificates





The right recipe for a good MgO

Austria is famous for excellent pastries - from apple strudel to cream slices. As every good confectioner knows, when it comes to baking it depends on three things: Firstly, the quality of the ingredients - fresh apples and good flour. Secondly, the right mix of ingredients - sugar and salt - and thirdly, the right type of baking in the oven - heat from above and below at 200°C.

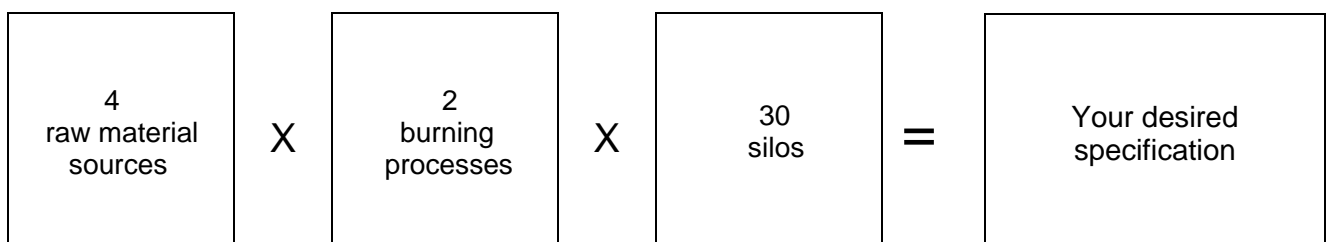
The quality of MgO is also influenced by these three criteria: Rough stone quality, mixing ratio and firing process.

Rough stone quality - Styromag sources its raw magnesite from four different mining areas near its plant in St. Katharein at Laming in Styria, Austria. The magnesite differs both geologically and chemically, which allows it to be mixed according to the optimum requirements of the respective product.

Firing process - Styromag has two furnace systems which produce MgO with different physical and chemical properties. The multi-deck oven produces a grain size of 0.1 - 1.8 mm and a grain size <0.2 mm.

The fluidized bed furnace also produces a very active MgO <0.2 mm using a firing process for magnesite that is unique in the world.

Mixing ratio - The mixing takes place already during rough stone processing, but can also be after the firing process. The fired MgO is stored in 30 silos according to the respective grade and mixed according to the chemical and physical requirements of the customer.



CERTIFICATE

Quality Austria Trainings-, Zertifizierungs- und Begutachtung GmbH awards this **qualityaustria** Certificate to the following organisation:

This **qualityaustria** Certificate confirms the application and further development of an effective



**Styromag Styromagnesit
Steirische Magnesit
Industrie GmbH**

A-8611 St. Katharein/Laming, Oberdorf 41

QUALITY MANAGEMENT SYSTEM
complying with the requirements of standard
ISO 9001:2008

Quality Austria Trainings-,
Zertifizierungs- und
Begutachtung GmbH is
accredited according to
the Austrian Accreditation
Act by the BMWA
(Federal Ministry of
Economic Affairs and
Labour).

Quality Austria is accredited
as an organization for
environmental verification
by the BMFLW (Federal
Ministry of Agriculture,
Forestry, Environment
and Water Management).

Quality Austria is authorized
by the VDA
(Association of the
Automotive Industry).

For accreditation
registration details please
refer to the applicable
decisions or recognition
documents.

Quality Austria is the
Austrian member of IQNet
(International Certification
Network).
(Sik. Nr. FD 24.08)

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The current validity of the certificate is documented exclusively on the Internet under
<http://www.qualityaustria.com/en/cert> EAC: 2.1

Mining and converting of magnesite to caustic
calcined magnesite

The validity of the **qualityaustria** Certificate will be
maintained via annual surveillance audits and one
renewal audit after three years.

Registration No.: 00711/0

Date of initial issue: 23 February 1996

Valid until: 13 February 2017

Vienna, 14 February 2014


Quality Austria Trainings-, Zertifizierungs- und Begutachtung GmbH,
A-1010 Vienna, Zelinkagasse 10/3

Signatures removed for security reasons

Konrad Scheiber
General Manager

Ekkehard Bauer, MSc
Specialist representative



 **qualityaustria**



agroVet
Certification

Certificate

Cert. No: 7-02666-2014

Through an audit on 2014-11-10, documented in a report:

agrovet GmbH
Königsbrunner Straße 8
A-2202 Enzersfeld

certifies that the company:

STYROMAG Steirische Magnesitindustrie GmbH
Oberdorf 41
8611 St. Katharein/Laming

QS-ID: 4048473131018
Location number: F00000924

complies with the QS requirements for Meat and Meat Products
at the stage:

Feed sector
Production scope:
Production of feed material
11.01.28 Magnesium oxide



Enzersfeld, 2014-12-16
Date of certification decision: 2014-11-21
This certificate is valid until 2016-12-14

Decisions for the eligibility of delivery for approved locations is exclusively the
information given in the QS database. This is because deviations due to the
contract date, blocking of companies or something similar could appear. This
certificate is property of the certification body and must be returned on request.
The audit is based on the valid version of the scheme manual by the time of the audit.


Certification Body Manager
DI Hans Matzenberger



agro0032e VA QS manual Page 1 of 1



CLEANER PRODUCTION CENTER AUSTRIA
Informationszentrum für umweltgerechte Produktion GmbH

Zertifizierungsurkunde Certificate

Register.Nr.: C-AT-8-00355

**Styromagnesit
Steirische Magnesitindustrie GmbH**

A-8611 St. Katharein/ Laming



2015-11-16

Die ausgezeichnete Organisation hat ein Umweltmanagementsystem nach
ÖKOPROFIT am oben genannten Standort eingeführt. Die Zertifizierung wurde
gemäß dem ÖKOPROFIT-Verfahren durchgeführt und ist für ein Jahr gültig.

The certified organisation implemented the environmental management system according
to ECOPROFIT on the site mentioned above. The certification has been conducted
corresponding to the ECOPROFIT procedure and is valid for one year.



der Zertifizierer
the certifier



WIRTSCHAFTSUNIVERSITÄT
WIEN VIENNA
UNIVERSITY OF
ECONOMICS
AND BUSINESS

Certification of Quality

ISO 9001: Quality management certificate

The quality of our products is an essential part of our success. Many years before certification, STYROMAG practised and applied quality management in all its areas of activity.

Since 1996 we have been certified according to the ISO 9001 quality standard. This helps us to improve the process quality, our performance and the product. This especially benefits our customers and not just the company. Due to the optimisation of our processes and performance capability, we are able to bring a high quality product to the market at a fair price.

QS: Quality and Safety

In addition, the STYROMAG is quality certified as a magnesia feed producer. As such, we are entitled to identify our products with the Quality Scheme for food, QS certification mark of the Qualitäts und Sicherheit GmbH. Quality assurance is based on three interlinked control levels. The first control level is the self-monitoring, whereby we ourselves ensure that the guidelines created by QS are complied with. The second level deals with the continuous monitoring by an accredited laboratory of limit values, in particular for heavy metals and dioxins. The task of the third level is to control levels one and two by an independent QA auditor. The QS certification is also recognised by other animal feed standards agencies such as GMP +, AMA or OVOCOM / BEMEFA. STYROMAG is thus also entitled to supply these systems on the basis of its QS certification.

ECOPROFIT: Environmental program

Since 2013, we have been certified according to the ECOPROFIT environmental program (ÖKOPROFIT - Ecological Project For Integrated Environmental Technology). The aim is to reduce operational emissions, conserve natural resources and, at the same time, reduce operating costs (profit for the environment and the economy). In the ECOPROFIT program, we are part of a local company network and can draw on the various experiences of the participants.



KAUSTER STYROMAG DF 80 F

Mineral- / compound feed



Chemical properties

designation	MgO*	Mg	CaO*	Fe ₂ O ₃ *	SiO ₂ *	loss in ignit.*	Cd**	F**	Pb**	Hg**	As**	dioxins furanes**
DF 80 F	83%	50%	5%	2,5%	4,5%	6%	2 mg/kg	600 mg/kg	10 mg/kg	0,1 mg/kg	20 mg/kg	0,75 ng/kg

* typical values

** **max. values** / tested by Österreichische Agentur für Gesundheit und Ernährungssicherheit GmbH

Mg calculated from MgO

Physical properties

designation	bulk density*	residue on sieve (200 µm)*	residue on sieve (90 µm)*	storage stability
DF 80 F	0,7 – 0,8 kg/dm ³	3%	35%	24 months from production date when stored in unopened original packaging

* EN 14016-2

KAUSTER STYROMAG DF 83 F

Mineral- / compound feed



Chemical properties

designation	MgO*	Mg	CaO*	Fe ₂ O ₃ *	SiO ₂ *	loss in ignit.*	Cd**	F**	Pb**	Hg**	As**	dioxins furanes**
DF 83 F	85%	51,3%	4,5%	2,5%	4,5%	4%	2 mg/kg	600 mg/kg	10 mg/kg	0,1 mg/kg	20 mg/kg	0,75 ng/kg

* typical values

** **max. values** / tested by Österreichische Agentur für Gesundheit und Ernährungssicherheit GmbH

Mg calculated from MgO

Physical properties

designation	bulk density*	sieve passage (< 0,5mm)*	sieve passage (< 0,1mm)*	storage stability
DF 83 F	0,7 – 0,8 kg/dm ³	100%	90%	24 months from production date when stored in unopened original packaging

* EN 14016-2

KAUSTER STYROMAG DF 83 G

Mineral feed



Chemical properties

designation	MgO*	Mg	CaO*	Fe ₂ O ₃ *	SiO ₂ *	loss in ignit.*	Cd**	F**	Pb**	Hg**	As**	dioxins furanes**
DF 83 G	83%	50%	5%	2,5%	5%	5,5%	2 mg/kg	600 mg/kg	10 mg/kg	0,1 mg/kg	20 mg/kg	0,75 ng/kg

* typical values

** **max. values** / tested by Österreichische Agentur für Gesundheit und Ernährungssicherheit GmbH

Mg calculated from MgO

Physical properties

designation	bulk density*	sieve passage (0,1 mm)*	storage stability
DF 83 G	0,9 – 1,1 kg/dm ³	15%	24 months from production date when stored in unopened original packaging

* EN 14016-2







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Oberdorf 41 - 8611 Sankt Katharein a. d. Laming - Austria