From: Feldman-Lehker, Dawn

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Subject: U.S. TRADEMARK APPLICATION NO. 77873477 - MAGNESITA - MAGN6002/TJM - Request for Reconsideration Denied - Return to TTAB - Message 1 of 3

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Attachment Information:

Count: 11

Files: magnesia2-1.jpg, magnesia2-2.jpg, magnesia2-3.jpg, magnesia2-4.jpg, zicoa-1.jpg, zicoa-2.jpg, zircoa2.jpg, firebrick-1.jpg, firebrick-2.jpg, firebrick-3.jpg, 77873477.doc

UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)
OFFICE ACTION (OFFICIAL LETTER) ABOUT APPLICANT'S TRADEMARK APPLICATION

U.S. APPLICATION SERIAL NO. 77873477

MARK: MAGNESITA

CORRESPONDENT ADDRESS:
THOMAS J. MOORE

BACON & THOMAS, PLLC

625 SLATERS LN FL 4

ALEXANDRIA, VA 22314-1169

GENERAL TRADEMARK INFORMATION:

http://www.uspto.gov/trademarks/index.jsp

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APPLICANT: MAGNESITA REFRACTORIES COMPANY

CORRESPONDENT'S REFERENCE/DOCKET NO:

MAGN6002/TJM

CORRESPONDENT E-MAIL ADDRESS:

mail@baconthomas.com

REQUEST FOR RECONSIDERATION DENIED

ISSUE/MAILING DATE: 2/26/2015

The trademark examining attorney has carefully reviewed applicant's request for reconsideration and is denying the request for the reasons stated below. *See* 37 C.F.R. §2.63(b)(3); TMEP §§715.03(a)(ii)(B), 715.04(a). The following requirement(s) and/or refusal(s) made final in the Office action dated July 18,

2014 are maintained and continue to be final: Section 2(e)(1) and Section 23. *See* TMEP §§715.03(a)(ii)(B), 715.04(a) .

In the present case, applicant's request has not resolved all the outstanding issue(s), nor does it raise a new issue or provide any new or compelling evidence with regard to the outstanding issue(s) in the final Office action. In addition, applicant's analysis and arguments are not persuasive nor do they shed new light on the issues. Accordingly, the request is denied.

If applicant has already filed a timely notice of appeal with the Trademark Trial and Appeal Board, the Board will be notified to resume the appeal. *See* TMEP §715.04(a).

If no appeal has been filed and time remains in the six-month response period to the final Office action, applicant has the remainder of the response period to (1) comply with and/or overcome any outstanding final requirement(s) and/or refusal(s), and/or (2) file a notice of appeal to the Board. TMEP §715.03(a)(ii)(B); *see* 37 C.F.R. §2.63(b)(1)-(3). The filing of a request for reconsideration does not stay or extend the time for filing an appeal. 37 C.F.R. §2.63(b)(3); *see* TMEP §§715.03, 715.03(a)(ii)(B), (c).

Final Descriptiveness Refusal/Refusal on Supplemental Register Maintained and Continued

The examining attorney issued a FINAL refusal on the Supplemental Register because the proposed mark, MAGNESITA, is generic or in the alternative highly descriptive with respect to the goods and services listed in the application. The goods and services are "Refractory products not made primarily of metal, namely, refractory bricks, refractory mixes for patching, lining or repairing high temperature apparatus and repairing the lining for furnaces, refractory furnace patching and repair mix" and "Providing information via a global computer network on constructing, maintaining, and repairing refractory apparatus using refractory products." The final refusal is maintained and continued.

The applicant claims that the examining attorney abused her discretion by using a proper translation of the word MAGNESITA. The examining attorney has not abused her discretion at all. She is merely following TMEP §1209.03(g) which states "the foreign equivalent of a merely descriptive English word is no more registrable than the English word itself. "[A] word taken from a well-known foreign modern

language, which is, itself, descriptive of a product, will be so considered when it is attempted to be registered as a trade-mark in the United States for the same product." In re N. Paper Mills, 64 F.2d 998, 1002, 17 USPQ 492, 493 (C.C.P.A. 1933). See In re Tokutake Indus. Co., 87 USPQ2d 1697 (TTAB 2008) (AYUMI and its Japanese-character equivalent held merely descriptive for footwear where the evidence, including applicant's own admissions, indicated that the primary meaning of applicant's mark is "walking"); In re Oriental Daily News, Inc., 230 USPQ 637 (TTAB 1986) (Chinese characters that mean ORIENTAL DAILY NEWS held merely descriptive of newspapers); In re Geo. A. Hormel & Co., 227 USPQ 813 (TTAB 1985) (SAPORITO, an Italian word meaning "tasty," held merely descriptive because it describes a desirable characteristic of applicant's dry sausage)."

The applicant's attorney conducted a search of over 25 websites for refractory goods using MAGNESITA as the search term which resulted in no hits on any of the websites. However, the examining attorney conducted a search of magnesite or magnesia which is the translation of MAGNESITA.

First, the examining attorney directs the applicant's attention to the first attachment to this office action ISPAT GURU. Magnesia, Magnesite and Magnesium Oxide are used interchangeably.

> The word magnesite literally refers only to the natural mineral, but common usage applies this name to three other types of materials, dead burned magnesia (DBM), electro fused magnesia and calcined magnesia also called caustic calcined magnesia. Often magnesia word is replaced by magnesite in these products. These products of magnesite often differ mainly in density and crystal development that results from different levels of heat application.

The examining attorney conducted a search of the websites the applicant mentions in its response. For example, the Zicoa.com website may not have "magnesita" listed as an input in its refractory products. However, the website does state that magnesia is a component in its Zicoa backup products. On the website Firebrickengineers.com, "magnesita" is not mentioned but magnesia is mentioned as a component of its Ladlemax products. The Mineraltec.com website does not list "magnesita" as a component of any of the goods but MgO the chemical symbol for magnesium oxide is listed as a component of the applicant's goods.

The examining attorney also conducted further research on some refractory products and attaches several companies' product information sheets. The Mt. Savage Firebrick lists Magnesium Oxide as a

component of the goods. Guidon lists its goods as "burned fused grain magnesite." Pilbrico's, Pilcast lists MgO as a component of the goods. Morgan ThermalCeramics describes their goods as "a high purity cast magnesia."

The examining attorney looked at all the websites and many did not actually produce refractory products. For example, the website for the Edward Orton Jr. Ceramic Foundation states that it provides products for "thermal process verification, thermo-analytical instruments and materials testing services." The applicant is related to the refractory products industry but does not actually produce refractory bricks or other refractory products.

Elgin Butler produces ceramic glazed masonry products such as ceramic tiles. The goods are not for lining the inside of kilns and other high temperature operations but are for construction applications.

Miami Stone Installers are a construction company that installs granite countertops, builds brick and stone walls and builds fireplaces. This company does not produce refractory products.

Finally, the applicant included three large retailers that sell one or two refractory items, Lowe's, Home Depot and Wal-Mart. None of these companies are in the business of producing refractory products.

For the above reasons, the applicant's request for reconsideration is denied and the FINAL refusals under Section 2(e)(1) and under Section 23 are maintained and continued.

/Dawn Feldman Lehker/

Trademark Examining Attorney

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MAGNESIA

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Magnesia

Magnesia or magnesium oxide (MgO) is a white hygroscopic solid mineral that occurs naturally as periclase. It forms magnesium hydroxide in the presence of water [MgO + H_2O = Mg(OH)2], but this reaction can be reversed by heating magnesium hydroxide to separate moisture.

Magnesium (Mg) is the eighth most abundant element and constitutes about 2 percent of the crust of the earth. It is the third most plentiful element dissolved in seawater, with a concentration averaging 0.13 %. Although magnesium is found in over 60 minerals, only dolomite, magnesite, brucite, camallite, and olivine are of commercial importance. Magnesium and magnesium compounds are produced from seawater, well and lake brines and bitterns, as well as from the above mentioned minerals.

Magnesite ($MgCO_3$), the naturally occurring carbonate of magnesium (Mg) is one of the key natural sources for the production of magnesia (MgO) and subsequently fused magnesia. It is the world's largest source of magnesia. It contains a theoretical maximum magnesia content of 47.6 %. It occurs in two distinct physical forms namely (i) macro-crystalline and (ii) crypto-crystalline. Crypto-crystalline magnesite is generally of a higher purity than macro-crystalline ore, but tends to occur in smaller deposits than the macro-crystalline form.

The word magnesite literally refers only to the natural mineral, but common usage applies this name to three other types of materials, dead burned magnesia (DBM), electro fused magnesia and calcined magnesia also called caustic calcined magnesia. Often magnesia word is replaced by magnesite in these products. These products of magnesite often differ mainly in density and crystal development that results from different levels of heat application. The three products of magnesite are shown in Fig 1.

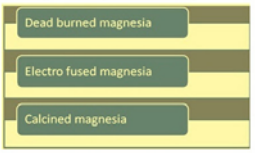

Fig 1 Products of magnesite

Magnesia is an alkaline earth metal oxide. Magnesium oxide is normally produced by the calcinations of naturally occurring minerals mainly magnesite. Other important sources of magnesium oxide are seawater, underground deposits of brine and deep salt beds from which magnesium hydroxide is processed. The general properties of magnesia is given in Tab 1.

Tab 1 Properties of magnesia

Property	Units	Minimum Value	Maximum Value
Atomic Volume (average)	cum/kmol	0.0056	0.0058
Density	g/cc	3.54	3.58
Compressive Strength	MPa	833.3	1666.6
Hardness	MPa	5000	7000
Modulus of Rupture	MPa	100	200
Latent Heat of Fusion	kJ/kg	1670	1880
Maximum Service Temperature	K	2250	2400
Melting Point	K	3080	3135
Specific Heat	J/kg.K	880	1030
Thermal Conductivity	W/m.K	30	60
Thermal Expansion	10^{-6}/K	9	12

Magnesia is a refractory material which is physically and chemically stable at high temperatures. Refractory industry is the largest consumer of magnesia worldwide.

The terms dead burned magnesia (DBM), electro fused magnesia (EFM), or refractory magnesia are used predominantly in the refractory industry where they are mainly used to make shaped and unshaped products to line high temperature vessels such as furnaces and kilns in the steel, cement, non-ferrous, glass and chemical industries. The terms refer to the granular product produced by firing of magnesite, magnesium hydroxide, or another material reducible to magnesia at temperatures which normally exceeds 1500 deg C. The heating process is to be of sufficiently long duration to produce a dense, reasonably weather stable granule for use in manufacturing refractory materials.

Dead burned magnesia (often called dead burnt) is used almost exclusively for refractory applications in the form of basic bricks and granular refractories. Dead burned magnesia has the highest melting point of all common refractory oxides and is the most suitable heat containment material for high temperature processes in the steel industry. Basic magnesia bricks are used in furnaces, ladles and secondary refining vessels. Electro fused magnesia is superior to dead burned magnesia in strength, abrasion resistance and chemical stability.

The terms high grade and high purity generally refer to a refractory magnesia containing more than 96 % MgO, a density greater than 3.30 g/cc, preferably 3.40 g/cc, and a proper relationship of auxiliary oxides.

Magnesia is used in the steel industry as a refractory brick impregnated with tar, pitch, graphite etc to give optimum properties for corrosion

resistance in environments of basic slags. Calcined magnesia is used in steel making to modify the properties of steel making slags during steel making as well as to change slag characteristics for slag splashing in BOF vessels. The main application of magnesia is in steel refractories with more than 70 % of all type of magnesia refractories used in steel production and continuous casting operations.

High grade DBM and EFM are used mainly in bricks/shapes to produce the following refractories.

- Magnesia carbon bricks
- Magnesia bricks
- Magnesia chrome bricks
- Magnesia spinel bricks
- Magnesia dolomite bricks
- Magnesia carbon alumina bricks

DBM is mostly used in the manufacture of basic monolithic refractories such as gunning repair products, tundish working linings and precast shapes (tundish dams/weirs). Applications for sintered magnesite include isostatic pressed shapes and flow control systems (sliding gate plates etc).

High grade magnesia for refractory applications is classified according to purity (MgO content), bulk specific gravity (BSG), periclase crystal size (PCS) and CaO/SiO2 ratio. When the grain size of the magnesia crystal is large then its stability is very good. Typically, high grade DDM for the steel industry requires MgO content of 97 % minimum, DSG of 3.40 minimum, PCS of 100 microns minimum and CaO/SiO2 ratio of 2.0 minimum.

The addition of fused magnesia grains can greatly enhance the performance and durability of basic refractories such as mag carbon bricks. This is a function of a higher bulk specific gravity and large periclase crystal size, plus realignment of accessory silicates. Refractory grade fused magnesia has exacting specifications and is normally characterized by the following.

- Generally high magnesia content (minimum 97 % MgO and up to/exceeding 99 % MgO)
- Low silica which means high lime to silica ratio of 4 minimum
- Densities of 3.50 g/cc or more
- Large periclase crystal sizes (1000 microns minimum)

Due to its relatively high chemical stability, strength and resistance to abrasion as well as excellent corrosion resistance, refractory grade fused magnesia is used in high wear areas in steel making. Lower grade EFM is also used in refractory bricks and shapes. EFM also has high thermal conductivity.

Calcined magnesia is normally graded according to purity, sizing and reactivity. Most of the calcined magnesia produced has MgO content ranging from 85 % to 95 %. It has a loss of ignition (LOI) value of less than 10 % and has a high reactivity which means that it has got high absorbing capacity for water vapour and CO2.

Historically the main global producers of high grade DBM have been based on synthetic technology converting magnesium rich seawatar or brine into magnesia. The only natural high grade DBM producers are Turkey and Australia which are based on cryptocrystalline magnesite deposits.

Production process for calcined magnesite, DBM, and EFM

MgO is produced by the calcination of MgCO3 or Mg(OH)2 or by the treatment of magnesium chloride with lime followed by heat. Calcining at different temperatures produces magnesium oxide of with different reactivity. High temperatures (1500 deg C to 2000 deg C) produces dead-burned magnesia, an unreactive form used as a refractory. Calcining temperatures (1000 deg C to 1500 deg C produces hard-burned magnesia which has limited reactivity while lower temperature, (700 deg C to 1000 deg C) calcining produces light-burned magnesia, a reactive form, which is called calcined magnesia.

Magnesite is converted into magnesia by the application of heat which drives off carbon dioxide (CO2), thereby converting the carbonate to the oxide of magnesium (MgO).

Magnesite, from both natural sources (primarily magnesite) and synthetic sources (seawater, natural brines or deep sea salt beds), is converted into calcined magnesia by calcining to between 700 deg C and 1000 deg C, driving off most of the contained CO2. Calcined magnesia is both an end product and an intermediary step in the chain of magnesia products.

Further calcining of magnesite at higher temperatures between 1500 deg to 2000 deg C results in the largely inert product, dead burned magnesia. Heating to this level drives off all but a small fraction of the remaining CO2 to produce a hard crystalline non reactive form of magnesium oxide known as periclase. Dead burned magnesia exhibits exceptional dimensional stability and strength at high temperatures.

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magnesium oxide known as periclase. Dead burned magnesia exhibits exceptional dimensional stability and strength at high temperatures.

Fused magnesia is produced in a three phase electric arc furnace. Taking high grade magnesite or calcined magnesia as raw materials, 12 hours is required for the fusion process at temperatures in excess of 2750 deg C. The process promotes the growth of very large crystals of periclase (greater than 1000 microns compared 100 microns for dead burned magnesia) with a density approaching the theoretical maximum of 3.58 g/cc.

In fused magnesia production, the main constraints on capacity are the size and number of electric arc furnaces, and the cost of energy. The manufacture of fused magnesia is very power intensive with electricity consumption varying between 3500-4500 kWh/ton.

February 2013

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- Agent in China: Alan Yang | +86-135-0127-6286

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Pressed or Cast Zirconium Oxide Compositions Engineered for High Temperature Cycling Environments

Calcia, Yttria or Magnesia stabilized coarse grain tubes are manufactured in various grain sizes, mass and shapes to satisfy your specific application and deliver long-term service. Markets served include: non-reactive firing of electronic components and crystal growing.

Coarse grain tubes

COMPOSITION 1651

Tubes made of composition 1651 are typically used for high temperature induction heated crystal growing furnaces. 1651 is composed of zirconia, stabilized with 3.5% calcia by weight. These tubes will survive repeated cycling from room temperature to 2000°C (3632°F), when used with Zircoa backup material. Please contact us to discuss your specific needs.

SPECIFICATIONS

Standard Sizes of Coarse Grain Tubes

Dimensions			
OD		ID	
mm	inches	mm	inches
38.1	1.50	25.4	1.00
38.1	1.50	12.7	0.50
50.8	2.00	38.1	1.50
50.8	2.00	31.7	1.25
50.8	2.00	25.4	1.00
63.5	2.50	50.8	2.00
63.5	2.50	44.4	1.75
63.5	2.50	38.1	1.50
69.8	2.75	57.1	2.25
76.2	3.00	63.5	2.50

76.2	3.00	50.8	2.00
88.9	3.50	76.2	3.00
88.9	3.50	63.5	2.50
92.2	3.63	79.5	3.13
101.6	4.00	88.9	3.50
101.6	4.00	76.2	3.00
114.3	4.50	101.6	4.00
127.0	5.00	114.3	4.50
127.0	5.00	101.6	4.00
152.4	6.00	139.7	5.50
152.4	6.00	127.0	5.00
177.8	7.00	152.4	6.00
190.5	7.50	171.4	6.75
222.2	8.75	196.8	7.75

Physical Properties of Various Zirconia Compositions

Composition	1968	1651	872	871	890	2290	3004
Stabilizer	CaO (a)	CaO (a)	CaO (a)	CaO (a)	Y2O3 (b)	Y2O3 (b)	MgO (c)
Bulk Density (g/cm3)	3.3	4.2	4.1	3	4	4.5	4.6
Porosity (%)	35	25	30	40	29	23	16
Modulus of Rupture (psi)	450	2,400	1,100	800	1300	2400	3500
Coefficient of Thermal Expansion RT-1300°C (in/in/°C)	8.2	7.3	8	7.9	9.4	5.9	2.3
Thermal Conductivity (W/m-°K) 800°C	0.68	1.2	1.2	0.52	1	1.2	1.4

a. calcia b. yttria c. magnesia

Refractory Backup (Thermal Insulation)

Extend the life of your furnace, and maintain tighter control over your furnace temperatures with Zircoa's pre-sintered grog refractory backup .

- **Zircoa Backup 1859** — Partially stabilized with magnesia and calcia. Available in -8+100 Tyler mesh size.
- **Zircoa Backup 3001** — Partially stabilized with magnesia. Available in -8+28 Tyler mesh size.
- **Zircoa Backup 10B** – Calcia stabilized bubble zirconia. Available in -10+30 Tyler mesh size.

Zircoa

Burner Blocks for Glass Furnace Oxy-fuel Firing

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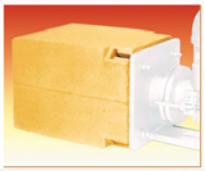
Burner Blocks Reduce NOx Emissions, Extend Burner Life and Improve Glass Quality

Burner blocks are engineered to withstand high temperatures and the contaminants present in fuel oil, while providing the added resistance to corrosion. Either Calcia, Yttria or Magnesia stabilized Zirconium Oxide compositions will satisfy your unique requirements and extend burner block life to more than one year. Markets served include: glass and quartz melting and high temperature sintering.



Burner block

SPECIFICATIONS

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Stabilizer	CaO (a)	CaO (a)	CaO (a)	CaO (a)	Y2O3 (b)	Y2O3 (b)	MgO (c)
Bulk Density (g/cm3)	3.3	4.2	4.1	3	4	4.5	4.6
Porosity (%)	35	25	30	40	29	23	16
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Thermal Conductivity (W/m-°K) 800°C	0.68	1.2	1.2	0.52	1	1.2	1.4

a. calcia b. yttria c. magnesia

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- **Zircoa Backup 10B** – Calcia stabilized bubble zirconia. Available in -10+30 Tyler mesh size.

Refractory Brick Products

Brick by Resco, An American Owned Refractory Company

RESCAL

FURNAL HS

NARCAL

LO-SIL SUPER

ALUMINA BRICK

ALUMEX

KRIAL

KRIMUL

DURALITE

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ALUMINA BRICK

This is a general guide to the alumina brick products available from RESCO Products. These

bricks are manufactured with the highest quality materials at ISO-certified plants, using modern

SPC procedures. The brick are formulated and shaped to meet the high temperature and corrosive

conditions present in the production of industrial goods-from aggregate materials and primary

metals to complex hydrocarbon chemicals used throughout the world.

EXTRA HIGH ALUMINA BRICK

KRICOR ·RESCAL 90 XD

These unique 90+% alumina brick are made from tabular alumina with a mullite matrix. They are

characterized by high resistance to slag attack, low porosity and permeability, high hot strength and density, resistance to severe abrasion and excellent dimensional stability. These mullite bonded 90% alumina refractories are used in the working linings of coreless and channel induction furnaces.

Other applications include: Carbon black reactors · Ceramic kiln linings · High temperature chemical and waste incinerators · Induction furnace linings, skid rails, and SRU linings.

DURA-TAB CA

DURA-TAB CA is a burned, phosphate-bonded 90% alumina-chrome brick. Compared to mullitebonded 90% alumina brick, it offers exceptional service against highly aggressive furnace slag.

DURA-TAB SC

DURATAB SC is a unique product that combines silicon carbide with high purity alumina to produce a refractory possessing exceptional resistance to very aggressive furnace slag associated with induction furnaces processing molten iron, and which is quite resistant to thermal shock. DURATAB SC is recommended for use

in the slag lines of iron melting furnaces.

KRITAB ·RESCAL 10 CR ·RESCAL 10 CR SR

All of these brick are alumina-chrome-solid solution-bonded 90% alumina brick. These brick are truly solid solution-bonded brick; the matrix consists of a solid solution of chromic oxide and alumina which results in extra hot load resistance and ability to withstand high temperature chemical attacks. The silica-free bonding system and neutral chemistry offer excellent resistance to erosion/corrosion from iron oxide-silica rich slags. They can be used in severe corrosion areas of channel type induction furnaces and any other applications where load-bearing and corrosion resistance are critical factors. They are recommended for the slag line of arc holding furnaces, carbon black reactors and incinerators. The 10 CR SR is the spall resistant product of the alumina-chrome family.

DURA-TAB

DURATAB is a 95% alumina mullite-bonded brick.

HIGH ALUMINA BRICK FOR ALUMINUM CONTACT

LO-SIL SUPER

Among the many refractories developed for aluminum melting furnaces, this 90% alumina brick with non-wetting additive stands out for its exceptional resistance to attack by molten aluminum.

LO-SIL SUPER is ideal in furnace linings for the production of hard alloys. LO-SIL SUPER brick minimize silicon pick-up and furnace downtime; they preserve the quality of the molten alloy.

Their hardness and high modulus of rupture give the brick lining excellent resistance to impact and abrasion.

FURNAL HS and RESCAL 80 BP (Burned)

These two product are ideal choices for molten aluminum contact in melting and holding furnaces. They perform well in aluminum furnaces with high mechanical wear and abuse. Both are bauxite-based, burned 85% alumina brick with superior hot and cold strengths. Their non-wetting matrix and high strengths make either an ideal choice for melting or holding furnaces, especially those utilizing heavy cold charges.