



simonsen & sons

**1 December
1984-1999**



**15
YEARS
YOUNG!**



DYNASTY UPDATE

A new century is in front of us and the aluminium industry and its suppliers may be facing many challenges in order for the aluminium industry not only to maintain the present, strong foothold as suppliers of a metal with outstanding properties which makes aluminium a perfect material for use in the transport, building and packaging industries; but also in order for the industry to grow and become even stronger in the future.

I personally feel that there are many new possibilities for application of aluminium in various, other industries than those which are known today. Not only is it very important for smelters using refractories and other raw materials to have a constant, intense dialogue with their suppliers; but I think it is just as important for the aluminium industry to have the same communication and contact to existing and new consumers to remain strong and to become even stronger by meeting the customers' demands for products and properties. Today it is considered something special to have cars with aluminium panels and other decoration such as gear stick knobs. Also I recently saw a Swiss Bulgari watch made from aluminium and rubber, simply called "ALUMINIUM", and it is a beautiful, pretty expensive watch.

I think there will be a good market also for aluminium in more exclusive areas than it has been the case so far.

It has always been our philosophy to work technically closely together with our suppliers of refractories and of course to have a direct and ongoing dialogue with the technical staff in the various smelters worldwide. Only by maintaining this policy we have established ourselves as firstclass suppliers to the industry and I think the same goes for any smelter or aluminium group, because in the end what is the difference between meeting the smelters' requirements for refractories and developing new products together with the smelters, and for the aluminium companies to work closely with their customers to meet their demand for aluminium and develop aluminium with new properties to satisfy the customers ?

There **is no** difference. The only difference is the products supplied to the customers.

Therefore I wish the entire aluminium industry all the best in the new century and the necessary growth and wealth which may hopefully also reflect on our activities.

I guarantee you that whatever we ourselves or our suppliers can do will be done to keep **you** ahead of your competitors producing alternative products to aluminium.

THE GOLDEN GATE BRIDGE SAN FRANCISCO

has always fascinated me. I have crossed this master piece of a bridge by car many times, I have sailed under it, I have flown over it and lately, believe it or not, I have crossed it by bike. On a business trip to the west coast of the US in October together with my wife Tove, Tove suggest that we should have some exercise.

Therefore, we rented two bikes and rode from San Francisco over the Golden Gate Bridge to Sausalito in 22 minutes flat. After this exercise we went from Sausalito back to San Francisco by ferry.

It was very interesting but I guarantee you that the surface of the bay is very, very far below the bridge. If you are scared of heights as I am, it is not absolutely a pleasure to make this trip, but it certainly was a very special experience.



Ready to cross the Bridge

This year I chose a motive from America as a compliment to our American business associates and especially our longtime customers within the primary aluminium industry. Since I myself went to America the first time in 1964 (NOT 1864 !), the entire family, have established close relationships to many, many Americans.

I selected this motive from the US to show how much we, the entire dynasty, appreciate the business and relationships established with our American friends over the years.

THE GIRAFFE

On the envelope containing this **dynasty update** I hope you have noted the giraffe photographed by me in South Africa in 1998 while it was drinking water.

I think the giraffe is the most elegant and graceful animal in the savannah. If you have seen the giraffes running you know what I mean. I also find it quite interesting that in many cases you only see their bodies as their heads are hidden in the tree tops when they are grazing or should we call it "leaveing" as they eat leaves ? I don't know.



The babies are fantastic too. When they have been born they can start walking on their enormous long legs after a very short while.



Due to their height the giraffes also have a good overview of things going on even far away from them, and I hope this overview shall also symbolise our activities in the new century. Therefore we have selected the giraffe as our 1999 symbol, appearing on our envelopes.

THE STAFF

Many things have happened this year. Firstly we have had to ask Kim B. Hauge to leave us what he did in April. The chemistries did not match and we thought it better to part immediately, even though such decisions are neither nice nor easy to make.

Until June Year 2000 Marianna Simonsen, Morten's wife, is on maternity leave and so is Hanne Kristensen.

Marianna and Morten have adopted another small Chinese girl who has been baptised "Olivia" and Hanne has given birth to another son.

Elke Jeppesen has taken over the shipping department while Marianna and Hanne are on maternity leave, assisted by Majbrit who is only employed temporarily.

THE FAMILY

The family is still doing very well. Klaus turned 40 on 5 June 1999 and Morten 36 a few months earlier.

Susanne and Klaus' 3 children, Sara 9 years old, Frederik 5 years old and Nikolaj 2 years old, are our best friends and Tove and I have good fun with them when they visit us what a pleasure every time.

Marianna and Morten have now got 2 Chinese girls, Laura who is 3 years old and Olivia who just turned 1. The newest addition to the family, Olivia, is also very adorable. We all love them both very much. 17% of the dynasty is now of Chinese origin.

Susanne and Klaus have bought a bigger and nicer house and moved into their new house end October, and Marianna and Morten are building a new house on a very nice piece of land with a sea view. They expect to move into their new house early December.

So everyone is hopefully well settled for the Christmas holidays and the new year, and as usual the whole family shall spend part of the Christmas holidays together.

Our unique black Labrador, Silla, is as usual both healthy and hungry. She can eat anything, anytime, anywhere, but she is a very good friend also taking good care of Tove when she and Silla are alone at home while I am travelling. Tove is in safe paws !!

Klaus' old dog died earlier this year. He has got a new black Labrador "Mille" which we are very fond of not least our dog "Silla".

In our relatively small, happy family, we support and help each other privately and on the job. This family life is fantastic and believe me, I enjoy every single minute I am with my family.

CHINESE WEDDING

On 18 September 1999 our Chinese associate, Mrs. Xu Fuyu, married Dr. Wang Yang. Some of you know Miss Xu from either her participation in the TMS conference in San Diego in February, from visits to LIRR in China or from her visit to Europe. She is a good friend of the family and we appreciate working with her, a cooperation which shall definitely be extended in the years to come.



Mrs. Xu Fuyu and Dr. Wang Yang wearing their traditional Chinese wedding dresses.

VISIT FROM CHINA

Mr. Wang, Mr. Zhang and Mr. Ruanbo from LIRR (Luoyang Institute of Refractories Research) visited us in June. They were accompanied by Mrs. Xu Fuyu. First they visited our company, then the Chinese went to see Hydro Aluminium, Aardal Works, in Norway to have a meeting there and thereafter they went with Klaus to Hoogovens Aluminium in Voerde, Germany, to see Mr. Bernd Rolofs and have a meeting with him. Some very interesting trips and meetings from which I believe that our friends in Norway and Germany also benefited. The Chinese were impressed by what they saw in Denmark, Norway and Germany.

The Chinese were especially impressed by and interested in studying the pots lined with their **Sicatec 75 silicon carbide bricks, nitride bonded.**

The Chinese arrived in Nykobing Mors at exactly the same time as the Danish Queen Margrethe II came to Nykobing Mors to participate in the celebration of the 700th anniversary of our city. Our Mayor knew that our Chinese friends were coming to Nykobing Mors, so Tove and I plus the 4 Chinese received an invitation to participate in a cocktail party with the Queen. The Chinese seemed to like this new experience.

Before the party took place the local newspaper, Morsø Folkeblad, took our picture outside the building on the red carpet.



From left to right: Mr. Ruan Bo, Tove Simonsen, Jørgen Simonsen, Prof. Wang Jinxiang, Mrs. Xu Fuyu and Prof. Zhang Zhi Ping.

Below the picture the local newspaper wrote the following:

Chinese delegation visits "Det Ottekantede"

Three Chinese professors, Mr. Wang, Mr. Zhang and Mr. Ruanbo, had an extraordinary experience during their visit to Mors yesterday.

A while ago when the Mayor, Mr. Egon Plejdrup, learned that they were coming to Denmark on the 14th of June, he immediately invited them to "Det Ottekantede Forsamlingshus" (a popular local, octagonal village hall) to which the Queen and the Prince were also invited.

The Chinese are in Denmark to visit the company **SIMONSEN & SONS A/S** on Mors, a company specialised in the supply of insulating and refractory products to the worldwide aluminium industry.

The managing director of Simonsen & Sons, Mr. Jørgen Simonsen, says that the Chinese were very impressed not only by the invitation to the village hall but also by the fact that they were sitting very close to the royal couple.

But they were astonished that the Queen did not give a speech. In China the leaders of the country always rises to give a speech to the people.



From left to right: Mr. Ruan Bo, Mr. Egon Plejdrup, Prof. Wang Jinxiang, Prof. Zhang Zhi Ping, Mrs. Xu Fuyu and Mr. Jørgen Simonsen

The next morning before our departure for Norway, the Chinese, my wife and myself were invited to a reception in the town hall, where the Mayor, Egon Plejdrup, requested us all to sign in the town's guest book beside the Queen's and her husband Prince Henrik's signatures, signed the day before when the Queen visited the town hall.

HYDRO VISIT

On Wednesday 22 October Mr. Aadne Høines and Ms. Sissel Merete Nyheim from Hydro Aluminium, Norway, visited us to negotiate a 3 year contract. The negotiations were successful I think I may say for as well Hydro Aluminium and us.



From left to right: Sissel Merete Nyheim, Aadne Høines, Morten Simonsen and Klaus Simonsen

ALUMINIUM PRICES

Over the years I have often written about the aluminium prices but gradually I am learning (and about time, some of you might say) that the prices are as unpredictable as next week's weather. However, there is a general feeling that the prices will remain at their present level for quite a while and maybe even increase, (and if not they will probably be lower, which seems the only alternative!). However, everyone in the aluminium industry should be quite happy with the present price level of approx. USD 1,500 a metric ton. This has been the price for quite a while and we hope it will remain stable for a long time, so that competitive, alternative products to aluminium have a hard time competing with aluminium.

FACE CHANGE IN THE ALUMINIUM INDUSTRY

It seems as if the world aluminium industry will have gone through a massive change when it enters the new millennium.

In August the three way merger between Alcan, Pechiney and Algroup (APA) was announced and also Alcoa's acquisition of Reynolds Metals Co. which altogether concentrates five of the most important players in the aluminium industry into two global aluminium giants which at a glance have the following proportions:

- Alcan/Pechiney/Algroup (APA)
Combined revenues in 1998
USD 21.6 bn
3.3 Mt/y primary smelting capacity and
3.17 Mt. fabrication
- Alcoa/Reynolds
Combined revenues in 1998
USD 22.28 bn
5.1 Mt/y primary smelting capacity and
3.4 Mt semifabricated shipments in 1998

These mergers create entities controlling an important share of the global aluminium industry.

The AlcoaReynolds group will have a sales of USD 20.5 bn and controls more than one sixth of the world's primary aluminium production and nearly 45% of the western world's aluminium production.

The APA group will be similar in size with a combined 1998 sales of USD 21.6 bn. The main weight will be in the downstream sectors.

In June British Steel merged with Hoogovens which has a 90,000 t/y primary smelting capacity.

I think more mergers will follow and the development will be quite interesting to follow. However, I also believe that there will always be space for smaller, independent smelters and I still think that "small is (a little) beautiful".

SIMONSEN CHINA

From 1 October 1999 our company has been registered in China and our Chinese company name is:

SIMONSEN & SONS LTD
DALIAN F.T.Z.

F.T.Z. is an abbreviation of FREE TRADE ZONE.

MOSCONI ITALY

Since the start up of our company this very good supplier of ours has been and is improving continuously.

Mosconi recently installed a new tunnel kiln for firing their bricks and it seems as if they consider installing one more new kiln. Today Mosconi's production is as large as that of our competitor in Denmark.

The Italian bricks/blocks have never been better. Also the Italians are very innovative as we are proud to introduce 2 new sizes of Mosconi blocks this fall. One is the

MAGNUM 475

Italian insulating perlite blocks for
bottom insulation of electrolytic furnaces &
backup lining in anode bake furnaces

which is a large block with tongue and groove, but which we can also supply as square blocks.

This block can be made twice as large as competitive BF blocks.

The other new product is

MEGA 500

Italian insulating perlite blocks for
bottom insulation of anode bake furnaces

which is very large block developed for application in pots where one MEGA block can replace many standard bricks.

Also instead of for instance 2 layers of insulation in the bottom of the pots you can use the MEGA blocks in one layer only, as these blocks can be produced in thickness up to 124 mm (approx. 5").

MEGA 500 can replace BB blocks in the bottom of anode bake furnaces.

Using the MEGA blocks you avoid using filling material in the joints between the BB-blocks.

Please see enclosed data sheets.

Mosconi is also working on a new insulating brick which is more cryolite resistant than the standard MSB-450 and MSB-575 qualities, and we expect to launch this product during Year 2000.

CAPE CALSIL - England & Scotland

Our close associates Cape have got the new production line in Washington (close to Newcastle) a 100% under control after having moved all the equipment from Germany to England and Scotland for the production of calcium silicate boards.

The boards produced in this partly new production line are machined on the 4 small sides and the 2 large faces. The boards are unbelievably accurate tolerance-wise and a calcium silicate board like the INSULITE 1900 board has till today not been produced anywhere else in the world.

The R & D department in Uxbridge, Dr. Mike Townson and Mr. David Cliff have been successful in developing a long-time wanted, better insulating calcium silicate board:

INSULITE 2000

This new board is named after the new century. It has been tested recently and the independent tests verify that the insulating value is approx. 30 % (THIRTY PERCENT) better than that of the INSULITE 1900 and other equivalent boards, meaning that the boards are far better insulating than any other calcium silicate board available in the market today.

The production in the UK is managed by Mr. Bill Farrell, Operations Director for the production facilities both in Glasgow and in Washington.

BURTON

The Burton bricks and large "tiles" have never been of a better quality. The production, the quality control and the cleanliness of the plant are unique. In my opinion it is simply the world's best producer of refractories today.

Sales of the large tiles in for instance the size 500 x 500 mm (approx. 20" x 20") is continuously increasing and the good news is that we NEVER had one complaint about any of the large shaped tiles from Burton.

Dr. Wolfgang Walz is also working on a new, more cryolite resistant tile for application in the upper layer of the pots below the carbon blocks, and we expect this new tile to see the daylight during the spring of Year 2000.

LIRR

We have also established an outstanding connection to our close friends and associates from LIRR in Luoyang.

Our Chinese friends know their business and they/we are always praised for

- a) high quality
- b) excellent oxidation resistance
- c) flatness of the bricks/tiles
- d) tight tolerances
- e) delivery on time and
- f) outstanding packing

The latest test results also show that none of our existing competitors seem to be able to beat us when it comes to quality.

We are regularly testing our Sicattec bricks at the Sintef laboratories in Norway and at LIRR's own laboratories in Luoyang, and every time the results are the same, so not only is the quality constant, but the bricks are the very best in the world today.

I may also announce that HYDRO ALUMINIUM in Norway has rated LIRR as an "A" supplier when it comes to

- Quality
- Reliability of Deliveries
- Service/Cost Reduction
- Healthy, Environment & Safety / Security

LIRR expect to become ISO-9002 approved by the Beijing Commission in March Year 2000.

SILICON CARBIDE BRICKS - nitride bonded

More than three years ago we introduced our SICATEC 75 bricks/tiles on the market. Since then we have kept testing our SICATEC bricks at the SINTEF laboratories in Trondheim which in my opinion are among the world leaders when it comes to publicly known test methods, as only a few other institutes perform tests on silicon carbide bricks. Furthermore SINTEF has over the years developed a great deal of experience in testing silicon carbide materials.

In October 1999 we received the result of a testing done by SINTEF on the most popular silicon carbide bricks available today. I do not believe it is enough to test ones own bricks and be happy with such test results - which we by the way always are and with good reason - but it is just as important to see how we rate compared to the other main players in the market.

Part of this test report is enclosed. The entire report is available on request. For your information "1" is best, based on a scale from 1 to 10.

May I point out that it is remarkable to notice how the prices for Silicon Carbide products have been dropping over the last 2 to 3 years. Why ? Yes, one can only guess but don't you think, too, that it was about time the existing players in this game got some serious competition ?

In my opinion the silicon carbide products have been overpriced beyond the reasonable and I guarantee you that as long as our company exists we shall do anything in our power to grow stronger and even more competitive in this particular field.

LIRR is in the final stage of making their 3rd expansion in the same number of years, and we shall keep expanding as long as there is a demand for silicon carbide products, and there obviously is a big demand which will definitely keep increasing over the next many years.

LAFARGE

Dr. Walz of Burton and we have for some time been cooperating with BasaltFeuerfest in Germany in order to develop and produce a series of mortars for our Alubar and Perial Bricks.

In the beginning of 1999, Lafarge Refractories, from Paris, acquired Basalt Feuerfest and as from November, Lafarge has decided to keep pursuing this successful cooperation with us.

Therefore, we are pleased to introduce our Alubond and Peribond new mortars, for which we enclose our technical data sheet. Alubond and Peribond are suitable for application together with the refractory bricks from Burton, specially used as barrier bricks (Alubar) or as side & flue wall bricks in anode bake furnaces.

VERMICULITE BOARDS

Strangely enough we always seem to have had problems of one kind or another when it comes to our producers of vermiculite boards in Germany.

Anyway, as you know we NEVER give up and therefore we have now established ourselves a little different as from 1 October 1999.

On that date our contract with KRAMERPROGETHA in Dusseldorf was terminated, but we are still able to supply vermiculite boards from that plant when needed be.

However, we have established a contract with

**THERMAX G.m.b.H.
Amstetten
Austria**

This Austrian company is the largest producer of vermiculite boards in the world, and their production equipment is very, very impressive. Their quality is second to none.

The Thermax boards will be marketed under our usual brand name VERMILITE 2000. At present Thermax only produces Vermilite 2000 boards and therefore we are also making other arrangements concerning supply of a top-class heavy PROLITE SUPER vermiculite board. This heavy board will be produced somewhere else in Europe, as we want to, once and for all, to overcome all previous problems with past vermiculite producers.

I feel very confident that we shall remain important players in this market and shall be able to supply high quality boards at attractive prices making sure to remain competitive.

At present one of our specialists in this field is developing a 15 to 30% more insulating vermiculite board which should be available during the spring of Year 2000.

ISOLITE

For quite a while we have not been successful in selling insulating diatomaceous bricks from Japan, as the value of the JPY is so high these days, that it is very hard to compete.

However, fortunately Isolite have their production of insulating firebricks in Malaysia, and we have been successful in selling some of these for backup lining of anode bake furnaces, our quality JAI-130.

Someday when the currencies are more normal we hope to be able to supply and be competitive with our bricks from Japan.

MIXER

On certain occasions we have had a few problems when aluminium smelters having purchased our mortar, as they did not have the proper equipment for mixing the Chinese SICABOND mortar.

This caused us some problems as a good mixing is very essential irrespective if it is SICABOND, SICARAM, SICACAST or our refractory mortars.

Our recommended mixer and its data appear from the enclosed data sheet.

As you will see it is labelled with ours, the producer's name and the type description of the mixer:

simonsen

STARRING SM 125

We can supply the mixer at a price of USD 2,500.- per mixer on an FCA Århus, Denmark, basis inclusive of overseas packing in wooden crates.

If you purchase our silicon carbide mortar SICABOND or SICARAM and SICACAST in quantities above 10 tons at a time we will supply you a mixer free of charge, also if the mortar is to be supplied successively over a period of max. one year.

However, there will only be one mixer for each customer irrespective how many times you order 10 tons of mortar or more.

The producer of this mixer already exports the mixers worldwide for especially the refractory industry. The paddles inside the mixer are made from chrome-nickel and the mixer is reinforced on the inside to withstand the wear and tear of mixing refractory products.

Homepage - Website

If you need to take a look at one or more of our data sheets, please open the Simonsen website where ALL data sheets and MSDS appear.

Our website address is: **simonsen.simonsen-sons.dk**

DUN & BRADSTREET

A few months ago we received our latest rating by Dun & Bradstreet. I enclose a copy of this Danish version which you will probably understand. I think that an "AA" means the same in all languages.

EURO

The below article about the Euros speaking for itself. Can you imagine a bunch of euronotes consisting of 13 000 000 000 bills (thirteen billions) I cannot, but it would be nice to have just a smaller part of these new notes what I shall probably also get, but definitely not as many as I would like to !!!

Printing works start production of euro bank notes

By Tony Barber

Printing works in Europe have started producing euro banknotes, 900 days before they are to become legal tender in the 11 countries participating in monetary union, the European Central Bank said yesterday.

About 13,000,000,000 (thirteen billions) banknotes representing a value of about £600bn (\$612bn) must be printed before 1 January 2002, when euro notes and coins officially go into circulation.

About 9bn banknotes will replace national banknotes, with another 4bn serving as logistical stocks.

"To give you an idea of the size of the production process, if the 13bn euro banknotes were placed end to end, they would stretch to the moon and back twice".

There are seven different banknotes ranging in value from £5 to £500. One side of each note depicts a European architectural style, from the classical age to the 20th century. The other side shows a bridge typical of the same period of Europe's history.

Unlike euro coins, the banknotes bear no national symbols and will be absolutely identical wherever they are printed.

Production of euro coins started in May 1998, and about 8 per cent of the required 56bn coins had been minted by the end of last May.

The ECB and European Commission say the different sizes and edges of the eight types of coin, ranging in value from 1 cent to £2, should help blind people distinguish between them.

The unique material composition of the coins, especially those of higher denomination, makes them difficult to counterfeit and easy to distinguish from other coins in vending machines, the ECB and Commission say.

CORRUPTION INDEX

I thought that you might find the below information of interest.

The article appeared in the Vancouver paper "The Globe and Mail" on 27 October 1999.

CORRUPTION INDEX FOR 1999

The index ranks leading exporting countries in the degree to which their corporations are perceived to be home of bribe-takers.

MOST	LEAST
Cameroon	Denmark
Nigeria	Finland
Indonesia	New Zealand
Azerbaijan	Sweden
Uzbekistan	Canada
Honduras	Iceland
Tanzania	Singapore
Yugoslavia	Netherlands
Paraguay	Norway
Kenya	Switzerland
Uganda	Luxembourg
Pakistan	Australia
Kyrgyzstan	Britain
Kazakstan	Germany
Georgia	Hong Kong

Source: Transparency International, Berlin

The Globe and Mail

FLYING

This spring I spent - as usual - a few days visiting our customer TALUM in Kidricevo, Slovenia. Kidricevo is really a nice place. As it so often happens when you go to a place regularly, I have got many friends in Kidricevo, especially Mr. Milan Firbas, Mr. Alois Kokol and Dr. Zlatko Cus.

The latter, Zlatko, who I am sure many of you know, is a passionate flyer and has of course his own pilot's certificate. When I visited Slovenia in April Zlatko was so kind to fly me around in the flying club's cessna plane, a beautiful experience.

After this flight I was up to another experience and quite a different one. Zlatko is the president of the local parachutist club and a highly estimated, international, parachutist referee. I have donated this club before and did it again what appears from Zlatko's below letter.

Att.: Mr. Jorgen Simonsen

Kidričevo 30.06.1999

Dear Jorgen,

Thank you for your letter and excellent photos. I am sure you will never forget the our flights over Slovenia. I have to apologize you if the flight with parachutists was a bit to strong for usual passenger. But I can say you that flight was absolutely safe only the gravitation forces was a bit to strong for non pilots or parachutist.

In any case you have very special experience.

I would like to thank you for your sponsorship for our parachuting training. Our young parachutists were champions in Slovenian National Championship and they will participate as Slovenian National Team in World Championship in September this Year in Austria. You can be happy because also you are now part of this success.

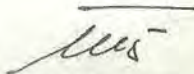
The parachutists have had a great lunch on 19th of May and smoked salmon disappered in a few seconds!

I hope we will fly together again with Cessna in the future. There are many nice places in Slovenia which are waiting for us.

My answer is a bit late because I was out of Slovenia some time on business reason.

Many kind regards

Dr. Zlatko ČUŠ



What Zlatko mentions was a flight with 12 jumpers who had to jump from a rented elderly, Russian Antonov AN-22 bi-plane, the largest single engine plane in the world, which according to Zlatko can land on approx. 65 metres (approx. 213 ft) of land.

Anyway, I went onboard with all the young parachutists - females and males - and what an experience. After the first one had jumped, the plane turned so fast away from its position that everything seemed upside down and I felt really uncomfortable - I wasn't sick (but it was very close). Then the Hungarian pilot got the plane back in the same position as before and the next person jumped and so on. What a relief when all the parachutists had left the plane.

At that point of time Zlatko was invited to fly the Antonov plane and I was invited to sit next to him what was very interesting.

The below photo shows me in front of the Antonov plane before taking off and therefore probably the smile on my face which thereafter disappeared very quickly.



On the next photo you see Zlatko while he was the copilot.



A very nice experience but I think I have finished flying with parachutists

BEADS

As you may have noticed over the years I have often been in South Africa. Recently when I was going through my old files I found a copy of the ALUSAF News, volume 7, April 1991.

In that magazine I found the below article, which I found very interesting to read again. I hope you like it too.

*Sweet nothings
whispered in the
Zulu language
of beads*

The Nguni tribes living along the southeast coast of Africa, especially the Zulu speaking tribes, love beads. Their women are experts in the subtle art of weaving beads into intricate patterns.

The Bushmen and early Bantu tribes made beads from ivory, bone, clay, seeds, stones, sea-shells, egg-shells, plants, aromatic wood, gold and copper.

Phoenician Arab and later European traders introduced beads as trade goods. Some of these early beads are so revered by Africans today that they are regarded as personifications of ancestral spirits.

One of the most fascinating manifestations of the art of beadwork is their use as a language. A girl will send her man an **incwadi** - a love letter made of beads. Each colour has a different meaning: a white bead is called **ithambo** (bone) and represents love and purity, a black bead is called **isitimane** (shadow) and means grief, loneliness and disappointment, a pink bead is **isiphofu** (poor one) and signifies poverty, a green bead is **uluhlaza** (new grass) and implies lovesickness or jealousy, a blue bead is called **ijuba** (dove) symbolising faithfulness, a red bead is **igazi** (blood) and means tears and longing, a yellow bead is **incombo** (young corn) and represents wealth, and a striped bead is **intothoviyane** (the striped grasshopper) and implies doubt.

Using a mixture of beads of the different colours, girls create gentle reminders which they send to their men in the form of strings - with the message to be read from one end to the other or in ornamental squares, with the message to be read from the outer edges towards the centre.

Complex expressions of feeling can be conveyed in this way and the man can wear the beadwork if he is proud of it, or hide it away if the message is angry or critical.

A BIRD

Some years ago I participated in a summer-meeting in the Morgan group. There was a show with eagles and falcons which are very interesting birds to watch and I got one on my hand and as you see I was wearing a falconer's glove.



It is the bird to the right

ELEPHANTS

As you may have realised I love animals and together with some friends from Nykobing I still support the Rhinos in the province of Natal, South Africa.

Elephants are also among my favourites. It is a very fascinating animal and below you will see a few photos I took last year in Botswana.



But there are also elephants in for example Thailand. Recently one could read in papers all over the world that a female elephant Motala had been in Myanmar as her Mahout (driver) had rented her and himself out to some people in Myanmar. Here Motala had stepped on a land mine and there was a big risk that Motala's left foot had to be amputated.

Fortunately she was taken very well care of in the Hang Chat Elephant Hospital in Lampang, Thailand. It is a good feeling that there are people who are so good to the elephants that they have established elephant hospitals. For good reasons we don't have such hospitals in Denmark.

Below you will see a few photos from Bangkok Post newspaper dated 1 September 1999 showing Motala in her "bed".





Also Motala

It seems as if many elephants in Thailand are losing their jobs, and for the past 20 years the total number of elephants in Thailand has been reduced from several hundred thousands to approx. 16,000.

This is mainly due to the fact that the industrialisation goes fast and has led to a massive forest clearing meaning that the wild elephants don't have so many places left to live and this industrialisation has also meant that there are fewer jobs for especially the male elephants.

If you are interested you can read more about the fate of the elephants in the book :

"Gone Astray" The Care and Management of the Asian Elephant in Domesticity, written by Richard A. Lair and published by the United Nations Food and Agricultural Organisation FAO.

It is a very sad development, and I really hope that this deforestation and destroying of the possibilities for the elephants to survive will be stopped - the sooner the better.

FINAL COMMENTS

When I recently visited Kaiser in Mead, Kathy Stromberger gave me the below truth as children see it.

GREAT TRUTHS ABOUT LIFE THAT LITTLE CHILDREN HAVE LEARNED

- No matter how hard you try, you can't baptise cats.
- When your mom is mad at your dad, don't let her brush your hair.
- If your sister hits you, don't hit her back. They always catch the second person.
- Never ask you 3year old brother to hold a tomato.
- You can't trust dogs to watch your food.
- Don't sneeze when someone is cutting your hair.
- Puppies still have bad breath even after eating a tic tac.
- Never hold a dust buster and a cat at the same time.
- School lunches stick to the wall.
- You can't hide a piece of broccoli in a glass of milk.
- Don't wear polkadot underwear under white shorts.
- The best place to be when you are sad is in Grandma's lap.

Below you find a couple of the traditional Grooks by Piet Hein which I hope you will like.

A PSYCHOLOGICAL TIP

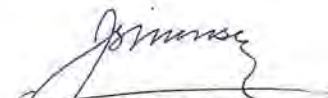
Whenever you're called on to make up your mind,
and you're hampered by not having any,
the best way to solve this dilemma, you'll find,
is simply by spinning a penny.

No not so that change shall decide the affair
while you're passively standing there moping;
but the moment the penny is up in the air,
you suddenly know what you're hoping.

MANKIND

Men, said the Devil,
are good to their brothers;
they don't want to mend
their own ways, but each other's

I wish you, your family and all your loved ones a happy Christmas and a very prosperous not only Year 2000 but also new century and hope that you may be able to enjoy a very big part of this new century.


Jørgen Simonsen

Encs: Technical Data Sheet - MAGNUM 475
 Technical Data Sheet - MEGA 500
 Technical Data Sheet - ALUBOND
 Technical Data Sheet - PERIBOND
 Technical Data Sheet - MIXER
 Part of SINTEF Test Report on Silicon
 Carbide Products
 DUN & BRADSTREET rating

alubond™

Mortar for Insulating and Refractory Materials
for Cathode Linings

		ALUBOND "w" (wet)	ALUBOND "D" (dry)	ALUBOND "D-H" (dry)
Bonding:	.....	Inorganic Chemical	Inorganic Chemical	Hydraulic
Raw Materials	.....	Quarts/ Fireclay	Quarts/ Fireclay	Fireclay
Application:	.....	Trowelling	Trowelling	Trowelling
Material Required:	 T/m³	1.8	1.3	1.8
27. PRE / HN	 lbs/cu.ft	104	69	104
Mixing:	water (weight-%) %	-	30 - 35	20 - 22
Max. Service Temp.:	 °C	1350	1350	1200
	 °F	2462	2462	2192
Storage under dry conditions:	 months	max. 12	max. 6	max. 12
Grain Size:	 mm	0 - 0.5	0 - 0.5	0 - 1
Chemical Composition:				
DIN 50001	Al ₂ O ₃ %	16	18	34
	SiO ₂ %	77	75	46
	Fe ₂ O ₃ %	1.2	1.4	5.2
	Na ₂ O ₃ /K ₂ O %	3.6	3.5	-
	CaO %	-	-	11.5

simonsen & sons ltd
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WebSite: simonsen.simonsen-sons.dk

ISO9002 approved Producer:
BASALTFEUERFEST GMBH
Bahnhofstraße 6
D67591 Offstein
Germany

			ALUBOND "W" (wet)	ALUBOND "D" (dry)	ALUBOND "D-H" (dry-hydraulic)
Modulus of Rupture (MOR): <i>DIN 51010</i>	110°C (230°F)	MPa	-	-	3.5
	800°C (1472°F)	MPa	2.0	2.5	1.0
	1000°C (1832°F)	MPa	-	-	0.5
	1200°C (2192°C)	MPa	3.0	2.0	-
Packing:			25 kg plastic box	25 kg paper bag with in- side plastic lining	



Dun & Bradstreet

Filed Information
Egenoplysning

D-U-N-S nr. : 30-546-3150

Dato : 09.09.1999

Side : 3 af 8

Int. :

Forespurgte

Your enquiry for

Deres forespørgsel på :

Registered name

Juridisk navn:

Name

Kaldenavn:

Simonsen & Sons A/S (Ltd)

Møgelvangs Plads 7

Simonsen & Sons A/S (Ltd)

7900 Nykøbing M

D-U-N-S nr. : 30-546-3150

Jur-/SE-nr. : 12646372

Tlf.nr. : +45 96 69 13 00

Telefax : +45 96 69 13 01

Overall evaluation

Samlet vurdering

Rating	Rating	:	AA	High credit worthiness
Maximum credit	Maksimum kredit	:	1.312.000	Høj kreditværdighed
Basic Data	Grunddata	:	Veletableret	Well Established
Ownership	Ejerforhold	:	God	Good
Economy	Økonomi	:	God	Good
Solvency	Betalingsforhold	:	Ingen anmærkninger	No remarks

Alle beløb er i hele danske kroner - hvis ikke andet er nævnt

All figures are in Danish kroner

magnum 475™

Italian insulating perlite blocks for
bottom insulation of electrolytic furnaces &
backup lining in anode bake furnaces



Bulk Density:	.....	Kg/m ³	475
ASTM C 134-70	.....	Lbs/cu.ft.	30
Max. Service Temperature:	.....	°C	900
	.....	°F	1650
Cold Crushing Strength:	.....	kg/cm ²	16
ASTM C-93-83	.....	MN/m ²	1.57
	.....	lbs/sq.in.	228
Hot Load Subsidence:	@ 820°C (1510°F)	%	0.5
ISO 1893			
Modulus of Rupture:	.....	kg/cm ²	10
ASTM C 93-83	.....	MN/m ²	0.98
	.....	lbs/sq.in.	142
Hot Modulus of Rupture:	.....	kg/cm ²	12
ASTM C-5-83	.....	MN/m ²	1.17
@ 800°C (1472°F)	.....	lbs/sq.in.	171
Linear Reheat Shrinkage:	.....	%	< 1.0
ISO 2477			
12 H @ 850°C (1560°F)			
Coefficient of Reversible Thermal Expansion:		°K ⁻¹	3.4 x 10 ⁻⁶
BS 1902: Part 1A: 1966, app. B		°F ⁻¹	1.9 x 10 ⁻⁶
20 to 750°C (68 to 1382°F)			

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WebSite: simonsen.simonsen-sons.dk



Producer:
MOSCONI SRL.
AN ISO-9002 certified company
Annico, Cremona
ITALY

MAGNUM 475

Total Porosity: <i>ISO 5017</i>	 %	81
---	---------	----

Thermal Conductivity: <i>ASTM C 182</i>	@ 200°C	0.11
W/m K	@ 400°C	0.13
	@ 600°C	0.15
	@ 390°F	0.76
Btu/(sq.ft.h°F/in)	@ 750°F	0.90
	@ 1110°F	1.04

Thermal Conductivity: <i>Hotwire Method - ISO 8894</i>	@ 200°C	0.17
W/m K	@ 400°C	0.20
	@ 600°C	0.22
	@ 390°F	1.18
Btu/(sq.ft.h°F/in)	@ 750°F	1.39
	@ 1110°F	1.53

Typical Chemical Analysis:	SiO ₂	%	65.0
	Al ₂ O ₃	%	15.0
	TiO ₂	%	0.4
	Fe ₂ O ₃	%	4.1
	CaO	%	4.2
	MgO	%	2.6
	K ₂ O	%	4.5
	Na ₂ O	%	2.3
	P ₂ O ₅	%	0.1
	Loss on Ignition	%	1.8

Max. sizes available:	Length:	mm	250 to max. 500
	Height:	mm	270
	Thickness	mm	76, 100, 114 & 124

Max. Dimensional Tolerances:	Length	%	± 1
	Height	mm	± 1
	Thickness	mm	± 1

Standard Packing:	Double-deck, 4-way pallets, cardboard on 4 sides and top, nylon straps and shrink film.
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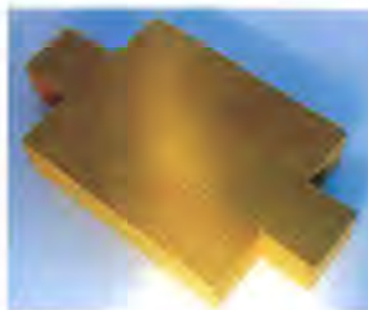
Storage:	Always store under dry conditions.
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HS Tariff Number: (Harmonized Commodity Description and Coding System)		690100
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The strength of the brick increases at rising temperature (see the front page).
Physical and thermal values are based upon regular, average test results.
No warranty or guarantee is implied on the data which are given in good faith.

mega 500™

Italian insulating perlite blocks for
bottom insulation of anode bake furnaces



Bulk Density: <i>ASTM C 134-70</i>	 Kg/m ³	500
	 Lbs/cu.ft.	31
Max. Service Temperature:	 °C	900
	 °F	1650
Cold Crushing Strength: <i>ASTM C-93-83</i>	 kg/cm ²	25
	 MN/m ²	2.45
	 lbs/sq.in.	356
Hot Load Subsidence: <i>ISO 1893</i>	@ 820°C (1510°F)	% 0.5
Modulus of Rupture: <i>ASTM C 93-83</i>	 kg/cm ²	14
	 MN/m ²	1.37
	 lbs/sq.in.	199
Hot Modulus of Rupture: <i>ASTM C-5-83</i> @ 800°C (1472°F)	 kg/cm ²	18
	 MN/m ²	1.77
	 lbs/sq.in.	256
Linear Reheat Shrinkage: <i>ISO 2477</i> 12 H @ 850°C (1560°F)	 %	< 1.0
Coefficient of Reversible Thermal Expansion: <i>BS 1902: Part 1A: 1966, app. B</i> 20 to 750°C (68 to 1382°F)	 °K ⁻¹	3.4 x 10 ⁻⁶
	 °F ⁻¹	1.9 x 10 ⁻⁶

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ISO 5017		

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W/m K	@ 400°C	0.14
	@ 600°C	0.15
	@ 390°F	0.83
Btu/(sq.ft.h°F/in)	@ 750°F	0.97
	@ 1110°F	1.04

Thermal Conductivity:		
Hotwire Method - ISO 8894	@ 200°C	0.17
W/m K	@ 400°C	0.20
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	TiO ₂	%	0.4
	Fe ₂ O ₃	%	4.1
	CaO	%	4.2
	MgO	%	2.6
	K ₂ O	%	4.5
	Na ₂ O	%	2.3
	P ₂ O ₅	%	0.1
	Loss on Ignition	%	1.8

Max. sizes available:	Length:	mm	250
	Height:	mm	135
	Thickness	mm	76, 100, 114 & 124

Max. Dimensional Tolerances:	Length	mm	± 1
	Height	mm	± 1
	Thickness	mm	± 1

Standard Packing:	Double-deck, 4-way pallets, cardboard on 4 sides and top, nylon straps and shrink film.
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Storage:	Always store under dry conditions.
-----------------	------------------------------------

HS Tariff Number:	690100
(Harmonized Commodity Description and Coding System)	

The strength of the brick increases at rising temperature (see the front page).
 Physical and thermal values are based upon regular, average test results.
 No warranty or guarantee is implied on the data which are given in good faith.

peribond™

Mortar for Anode Bake Furnaces

simonsen®

Brand Names:		PERIBOND "W" (wet)	PERIBOND "D" (dry)
Bonding:	.....	Inorganic Chemical	Chemical
Raw Materials	.....	Bauxite	Fireclay
Application:	.....	Trowelling	Trowelling
Material Required:	 T/m³	2.4	1.7
	 lbs/cu.ft	139	98
Mixing:	water (weight-%) %	Ready for use	20 - 26
Max. Service Temp.:	 °C	1650	1600
	 °F	3002	2912
Storage under dry conditions:	 months	6	12
Grain Size:	 mm	0 - 0.5	0 - 0.25
Chemical Composition: DIN 50001	Al ₂ O ₃	59	50
	SiO ₂	34	44
	Fe ₂ O ₃	1.0	2.2
	Na ₂ O ₃ /K ₂ O	2.9	-
Packing:		25 kg plastic box	25 kg paper bag with inside plastic lining

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ISO9002 approved Producer:
BASALTFEUERFEST GMBH
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Germany

**SINTEF Materials Technology**Address: N-7034 Trondheim
NORWAY

Location: Sem Sælands vei 6

Telephone: +47 73 59 40 55

Fax: +47 73 59 10 21

Enterprise No.: NO 948 007 029 MVA

SINTEF REPORT

TITLE

Chemical resistance test of Sicattec 75, CR1, CR2, NC1, SS1, BA1 and AA1.

AUTHOR(S)

Egil Skybakmoen

CLIENT(S)

Simonsen & Sons Ltd

REPORT NO.

STF24 F99595

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Jørgen Simonsen

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Sverre Rolseth

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Torstein Haarberg, Research Manager

ABSTRACT

Different types of Si_3N_4 -bonded SiC materials have been tested in a sideling test cell in laboratory scale under electrolysis for 50 hours with temperature about 955 °C. Two tests á 4 samples have been performed.

The test pieces were exposed simultaneously to liquid aluminium, cryolite melt and gas from the evaporation (mainly NaAlF_4) and the electrolysis gas (CO_2 and CO). The volume, open porosity and density of each material were measured (ISO 5017) before and after the test. The degree of corrosion was related to the volume loss of the samples during the test, described by a scale from 0 to 10 (0 is best, 10 is worst quality).

The results from the chemical resistance test are given below with measured density and open porosity before the test.

Material	Density (g/cm ³)	Porosity (%)	Volume loss (%)	Corrosion (scale 0 - 10)
Sicattec 75 I	2.70	14.23	2.55	3
Sicattec 75 II	2.74	13.14	2.06	3
CR1	2.64	17.62	2.76	3
CR2	2.64	17.35	2.10	3
NC1	2.62	17.61	1.95	2
SS1	2.66	16.13	3.49	4
BA1	2.73	12.64	7.33	8
AA1	2.61	18.25	11.01	10

KEYWORDS

ENGLISH

NORWEGIAN

GROUP 1

Ceramics

Keramer

GROUP 2

Refractory

Ildfast

SELECTED BY AUTHOR

Aluminium electrolysis

Aluminiumelektrolyse

Sideling materials

Sideforingsmaterialer

Silicon nitride bonded silicon carbide

Silisiumnitridbundet silisiumkarbid

simonsen®

STARING SM 125 Mixer



Gross volume:	.....	litre	125
Output:	.....	litre	approx. 70
Pan diameter:	.....	mm	735
Pan height:	.....	mm	320
Mixer top r.p.m.	.....		35
No. of mixer paddles:	.....		3
Electric Motor:	1x230 V - 50 Hz	 kW	1.5
	3x400 V - 50 Hz	 kW	1.5
	3x400 V - 60 Hz	 kW	2.2
Total weight:	.....	kg	approx. 150

Other voltages/frequencies according to requirement.

NB! We reserve the right to change technical specifications.

Installation

- When purchasing Simonsen Staring Mixer, **Staring Maskinfabrik A/S**, offers an implementation service to the customer by prior arrangement.
- This ensures that the Simonsen Staring Mixer operates correctly and allows for the instruction of operators.

After sales service

- Preventive maintenance service visits can be adapted to meet customer requirements.
- Spare parts delivery guaranteed within 48 hours.

Spare parts for Simonsen Staring Mixer

- Direct delivery of standard spare parts from our large stock.
- Fast despatch and delivery guarantee.
- Next day delivery dependent upon destination.