

## **NEWS - LETTER**

December 1994

Dear Readers,

Fortunately, we have all survived another year and are again approaching Christmas, and due to the worldwide upswing this year in a better mood than it has been the case in the past few years.

As all the others this year has passed very fast and, hopefully, 1995 will improve what I firmly believe, and I think that we will have bright times ahead within the industry, at least until the turn of the century.

1994 has been considerably better for us than 1992 and 1993, and we expect 1995 to become even better, though we shall not become millionaires being in our business, but does it really matter? The important thing is that one is healthy, has a decent life and enjoys ones family, then money in the bank is not that important.

Below we shall try to give you an overview of our and our suppliers' activities in the past year and how we view the future, and we hope that you will enjoy the reading.

### **10 YEARS' ANNIVERSARY**

It is hard to believe, but on the 1st of December 1994, it is exactly 10 years since I started the company together with my elder son, Klaus. Tove, my wife, also supported us during these first years and still does - now she works part-time - and 1-1/2 year after we started the company Morten joined us, and since then we have been moving on.

In a man's lifetime 10 years is not a very long period, but the fact that the company has existed for 10 years has proved that our idea of founding a company serving the Primary Aluminium Industry exclusively was right, and we must also have done certain things right in the past years, because we have a very good and relaxed relationship to all our suppliers, clients and whomever we deal with worldwide, and as we can all make a living we are quite happy.

It is no secret that had I known all the difficulties I have been facing during the past 10 years I might have had second thoughts about starting a company at that time, but taking our position today into consideration it has been worth all the struggling and fighting we have been through.

It has not always been easy, but thanks to help from suppliers, clients, bankers and during the recent years The Morgan Crucible Company Plc. of which we have now become a member we have made it, and it is very satisfactory to me. I have experienced things that few people experience in a lifetime so looking back, life has been very good, challenging, exciting, encouraging and beautiful to me. I have enjoyed almost every moment of it, even when I was in big trouble.

I could not have come this far without a good family life, and especially in my case where the family is part of the organization, I have supporters whom I can always trust and who have been backing me loyally and lifted a lot of work from my shoulders. I cannot thank my family enough for what it has done for me. It has been absolutely great, what is probably the most enlivening thing about the business.

My secretary, Charlotte, has been with us for nearly 8 years now, and she has become not only part of the inventory but also nearly a member of the family. She has been working loyally with us and is well known by all our clients.

I wish to take this opportunity to thank everyone whom we have been in contact with over the past 10 years for all their support, orders and any assistance they have provided us.

I really hope that our good relations may exist for many years to come, and I look forward to doing business with all of you in the future. I can guarantee that we shall do anything in our power to provide you with the materials which are needed for the most updated technologies, and always to do our utmost to give you a first-class service - thanks again to all of you.

## **CHRISTMAS GREETINGS**

As you may already have noticed I have not used one of my own photos from somewhere in the world for this year's Christmas Card.

Instead we have decided to make a cover for the news letter, showing on the front page that we are celebrating our 10 years anniversary, and inside you will see the entire staff.

## **FAMILY**

As I told you last year the family has expanded again, as last year on the 10th of October the family was gifted with a baby boy whose name is Frederik Bandholm Simonsen. Now I have a male successor, what is a fantastic feeling.

Unfortunately, Frederick was born with a deformed left hand, but he has been through a few operations in his hand, and even though he will never get a normally looking left hand, he will be able to use it as his thumb is now working. Having this deformity from the birth, everyone feels convinced that he will be doing well, and I can tell you that this is the only thing wrong with him.

He is strong, tall for a child his age and very mild, always smiling and of course I am too humble to mention that it is like seeing myself at his age!

Sara, his elder sister, is now 4 1/2 years old and has become a young lady with a strong will and her own ideas and thoughts. Now it is really fun to talk to her, and my wife and I often take her for picnics and trips to amusement parks etc., where we spend a full day with Sara. We enjoy it very much and obviously she loves it too.

No more babies are on their way right now, but they will probably come.

We are all still active in the daily business, meaning Klaus, Morten, my wife, Tove, my daughter-in-law, Marianna, and I. Of course we spend a lot of time together, sailing, playing golf or whatever, and it is still marvelous after so many years in business where we work together each day, that we have such a good relationship when we are together privately. It has been worth all the efforts and I am sure that Klaus and Morten will carry on the business and later on Fred may join them.



Everyone in the family is doing well, and we have been so lucky to get through another year, healthy, without any problems and may this continue for many years to come.

It is almost unbelievable, but on the 27th of December 1993 Tove and I had been married for 35 years, and we are thus quickly approaching our 36th anniversary. 35 years is a very long time and it is amazing where all these years went.

They have been very good years and I hope I shall enjoy many, many more years together with my lovely wife. She is fantastic and has brought up the boys in very good manner, because I was travelling so much. She has always been a good help, she is a certified translator speaking several languages and she has been an excellent hostess for the many guests we have had in our home for many, many years both when I worked for Skamol and later on when I started my own company.

Many of you probably know Tove well and agree with me. She is a "pearl".

## **STAFF**

As mentioned above the whole family is still working in the company.

We have a part-time auditor, Henrik Lavesen, who is doing all the reporting to Morgan in Windsor via Thermal Ceramics in France. He is also involved in our annual financial statements, and he is an excellent assistance. We have been battling quite a bit to live up to Morgan's expectations concerning reporting, but we seem to be on the right track now.

Charlotte is still here, as mentioned above, and during the past year we have had a substitute for Marianne Nielsen, Morten's secretary, who has been on maternity leave for 6 months as it is her legal right. Marianne started working again on the 25th of October and unfortunately Metha Vestergaard, her substitute, had to leave us what we deeply regret.

## **CONFERENCES**

The undersigned participated in the ARABAL Conference in Cairo during December 1993. It was an outstanding conference arranged by Egyptalum. All meetings were very well set-up, and it was a good opportunity to meet all my business associates and personal friends from mainly the Middle East smelters.

Of course one also gets the opportunity to see a lot of other people, and it is a good place to meet colleagues from within both the refractory and the aluminium industry - a perfect conference on which one can only congratulate the President of Egyptalum, Mr. Soliman Reda Aly, and the Egyptalum staff in general.

Klaus, Morten and I also participated in the TMS Conference in San Francisco during February this year, and as always it was fantastic.

It is amazing how many people one knows and how one always spends such a good time with friends and business associates. To me these are some of the best days of the year and it is always sad to leave the TMS Conference, because one knows that it will last another year before one is back, and having participated in these conferences for some 20 years, one realizes that people one used to meet in the past do not show up any longer, what is of course part of life, but always a little sad, and it is not always easy to say "goodbye" to all ones friends when one leaves that conference.

But as one clever man once said, "Life is a continued "goodbye".

We are of course going to the TMS Conference in Las Vegas again in February, 1995, and we look forward to going to this exciting place which is a world of its own, and I may confess that personally I prefer San Francisco to other places where the TMS meetings are held, but on the other hand coming from a small town with 7,000 inhabitants on the West Coast of Denmark, a small island back of beyond, it is a special experience to see the human tide of Las Vegas - it is unbelievable. I am surprised every time I go there, and sometimes, seeing people hanging in front of the one-armed bandits day in and day out, I do not always understand the behavior of some human beings.

My wife, Tove, will be joining me on the trip to the TMS-Conference in Las Vegas next time in order to see some of her friends, married to people from the aluminium industry, whom we have known for many years. Every now and then it is nice to bring along one's "better half" as we say in Denmark, and reestablish the long existing contacts. Klaus and Morten will be in Las Vegas too, of course.

## **ALUMINIUM PRICES**

In December 1993 the aluminium price was around USD 1,025.-/metric ton. Fortunately, the price has increased and kept increasing ever since, and when this letter is being dictated, it is above USD 1,700.-/metric ton. That is fantastic, I guess especially for the Americans, because what all the smelters outside the States need now is of course a strengthening of the USD, which has unfortunately for quite a while now been relatively weak compared to its former average strength, but "you cannot win them all".

As far as I can judge this increase of the aluminium price has really brought optimism back into the industry, what is an obvious fact after some years with low and absolutely depressing prices.

It seems as if most of the smelters start up idled pots and produce at full capacity even though there is still a lot of idled capacity around the world in order to keep the production down and to keep the prices up.

This has obviously also got to do with the Russian competition, but travelling the market, it is rumored that the Russians obviously have not reduced their production as they should, what is deeply regrettable, and if the Russians have not or do not reduce their production, I guess that one cannot expect the rest of the world's smelters to keep their production down if the prices keep going up. That might be a bad development for the prices, but of course again it depends on the upswing, and I believe that we have not seen the maximum prices yet.

I feel that pretty soon the price will be around USD 1,800.- a ton, and may I be right in my assumption.

May I be just as right as I was in February this year when I made a bet with Mr. Koichiro Mashio, a Japanese Gentleman and a very good friend, who is executive vice president and general manager of Mitsubishi in the USA and with whom I always meet at the TMS Conferences. Mashio-san is a longtime friend not only of myself but of the whole family and we always have a great time together. Mashio-san is no longer directly involved in the Primary Industry, but cannot really break off the connection with the industry which I think he is still very much attached to, and I made a bet with him in February in San Francisco, as I was convinced that the prices would be above USD 1,500.-/ton on the 1st of July 1994.

I was obviously right and took the freedom to write him a letter in July pointing out that he owed me USD 20.-. His reply appears from enclosure no. 1, and this letter was enclosed a 20 \$ bill.

It was not the money that really made my day, but more the fact that my predictions were right, and as I said above, may I be right again concerning my prediction for 1995.



I also won a bottle of Champagne from a friend of mine in a German smelter because of a bet regarding the aluminium prices. I have promised to pay the lunch which goes with the Champagne so I wonder, who really won?

## **ALUMINIUM PRODUCTION IN EUROPE**

It seems as if the aluminium production is continuously reduced. The last closure was the Alusuisse Smelter in Steg, Wallis, Switzerland. This was not a very big smelter, but a smelter with an excellent lifetime of its pots, and we had the pleasure of supplying this smelter for many years.

It was one of the nicest places to go to. It was like going to a wonderland, as the smelter was situated in the valley "Wallis" in Switzerland, which is a unique place. In that particular smelter I had a few longtime friends, and it is sad to see these very skilled and qualified Gentlemen probably not working in the smelting industry any longer, but I guess that is the price one has to pay if one works in a smelter that is up for a closure.

In Austria there is no aluminium production any longer, and it seems as if, considering the areas, the Scandinavian smelters are doing very well, meaning the ones situated in Sweden, Norway and Iceland, which we are also lucky to supply with various products.

Personally I feel that in the long run also due to environmental problems many European smelters, which are situated in densely populated areas in Europe, may close down before the turn of the century, and if the Russian smelters have their technologies updated based upon Western European and American technologies, we might in some years see the Russians becoming the main suppliers of aluminium into Western Europe.

These are my own predictions, but I do not think that they are all wrong, but of course aluminium production will mainly take place where inexpensive power is available. The main areas for future large scale aluminium production will probably be The United States, Canada, Brazil, Australasia, The Middle East, Scandinavia, Russia and South Africa.

## **NEW SMELTERS**

The newest smelter to be built right now is the 460,000 tons Alusaf Hillside Smelter, which will obviously start producing on June 1st, 1995. I have been around the site and it is absolutely impressive. It will be one big aluminium pump of huge dimensions. It is an outstanding plant and it is very impressive to visit the plant site.

We have been so fortunate to supply quite a lot of insulating refractories, castables, mortars etc. for the carbon bakers and have been dealing closely with Alprom, handling this project on behalf of Alusaf, and it has been quite an experience being involved in the largest smelter ever built in the world at one time.

It is rumored that another smelter will come up in Queensland on Boyne Island, and this is also a very exciting project. I believe that these are the only two actual projects at the present, but more will definitely come up before the turn of the century, as I still believe that some of the older smelters will shut down as only non-polluting and highly efficient smelters with low energy costs will be producing metal in the future, as it is the case in all other industries where you take these factors into consideration.

To a refractory supplier it is of course not that good, as we have also seen a trend over the years that the lifetime of pots has really been going up.

A lifetime of 6-7 years of a pot is not unusual today, and believe me, I do not think that time is distant when the lifetime of a pot will be 10 years what is good for the industry, and if pots are working as long as it is the case today with products that we have supplied for the pots, I think that we may take just a small part of the credit for creating such long lifetimes with first-class products which we are supplying for the pots.

## **MARKETING IN THE NORTH AMERICAS**

We have been working with Thermal Ceramics in Augusta and their local agents for some time, but have for the time being decided to switch back to the old system, where we deal with the smelters directly from our offices in Denmark and visit the smelters ourselves once or twice a year.

This close cooperation with the individual smelters is most valuable for us enabling us to keep track of what goes on in each smelter, so that we keep our knowledge about the industry up to date at all times.

## **SIBORIT, LÜNEBURG, GERMANY**

Siborit supplies our calcium silicate boards, the INSULITE 1900, for pot insulation. Fortunately, we see a worldwide increase in sales of our calcium silicate boards worldwide for the pots due to the high quality and the excellent properties of these German boards which are second-to-none.

We have lately distributed a new INSULITE catalogue. The catalogue is available upon request and contains all updated, relevant information about our INSULITE 1900 boards and not least the latest Material Safety Data Sheet (MSDS), meaning that we have an official, German governmental institution declaring that our boards are absolutely harmless to the human being. The author of this MSDS is Prof.em. Dr.med. H.J. Einbrodt. Doctor of Hygiene and Occupational medicine in Aachen.

In order to be abreast of developments, we have been cooperating extensively with Siborit to develop a new board, which we call

### **INSULITE 2000**

At the present it has only been produced on a laboratory basis, but the development of this board is a result of pressure from various smelters which need a more highly insulating calcium silicate board and which takes up less space in their pots.

The strength of this board is of course less than that of the INSULITE 1900 and the density is lower. However, the Thermal Conductivity is better, what means that you get not only a lighter product, but also a much more insulating board. If samples are desired please do not hesitate to contact us.

Siborit also produces heavy calcium silicate boards and these boards are sold under the brand names

### **MONALITE & ULTRA-FLOW**

depending on the markets in which the boards are marketed by us.

They are some of the best heavy calcium silicate boards available on the market today for the cast house, for spouts, floaters, launders etc.

Data can be mailed upon request and will also be distributed by us during our visits to the various smelters worldwide in the coming months.



It is also very important for Siborit to receive accreditation to the ISO-9002 standard. The quality control system in Lüneburg is very advanced and in many cases exceeds what is required according to the ISO-norms. The Germans are now writing their own quality control manual, on basis of which they will be granted the ISO-9002 approval what will take place during the first quarter of 1995.

I have been waiting for this approval for a loooong time, but "Good things do not happen overnight" - do they?

Siborit has introduced a new and very efficient control system.

If contrary to all expectations problems should arise qualitywise with an item supplied you on a particular delivery, you only have to inform us of the following:

- a) Date of Shipment, appearing from the works certificate which accompanies each container
- b) The dimension of the item in question

With the above information we go back to Siborit and they can in their computers trace the badges from which the item has been produced and determine all technical details of that particular item and find out whether there have been any problems during the production.

We have not had any quality problems for years, meaning that the quality control system is working, because boards which do not comply with the specification are rejected before being packed and shipped. But even the best manufacturer can make a blunder and of course also Siborit, so in case you might have something to complain about, just give us the above information and we will provide you with a copy of the technical data of that particular item, which Siborit will take from their computer file on that particular production.

## **MOSCONI SRL., ANNICCO, ITALY**

Mosconi, our longtime friends, are still making some perfect insulating perlite bricks. They have gone a long way to get their raw material supplies from a source supplying the same quality every time, meaning that a new and more uniform quality is being produced, meaning again that the fluctuations you saw in densities and strengths some years ago will no longer appear, even though there will always be small fluctuations because two batches of the same product made from a natural raw material cannot be absolutely identical.

We are still successful selling the double sized bricks which are getting a broader and broader acceptance, and as told before the Italians are approved according to ISO-9002, so any brick coming from Italy is of a very high and well controlled quality.

## **VERMICULITE BOARDS**

For quite a while we have not been in this market, as the boards which we could supply did not come up to neither our nor our clients' expectations. We are still a little doubtful about our involvement in sales of vermiculite boards in the future, but we will definitely know more about this during the coming year. You will be advised of how our situation is concerning supplies of vermiculite boards when you get the next News-Letter towards the end of 1995.

## **MATRIVIBE 693 LD - Dry Barrier Mix**

As you know and as informed in previous News-Letters we have been supplying substantial quantities of refractory bricks for application as barriers in the pots below the cathode blocks and above the insulation. We still have suppliers of such excellent bricks from Germany and France. However, the world moves on and we want to move on with it and preferably be a little abreast of developments.

During the past years we have noticed a trend towards a dry barrier mix to be used as a barrier above the insulation in the pots, and facing such realities, one cannot do anything else but join forces with one of the producers making what is considered one of today's best products on the worldwide market?

Our new supplier, with whom we recently signed a contract is

**ALLIED MINERAL PRODUCTS, INC.**  
Columbus, Ohio, USA

and we have become the exclusive distributor of this product for sales worldwide except in Australia and New Zealand where our partners THERMAL CERAMICS AUSTRALIA are producing the same product under license for sales to the Australasian smelters.

Allied Mineral has improved the product by reducing the dusting. Previously MATRIVIBE 693 was one of the least dusting products on the market, but the dusting has in general been nearly eliminated with the new MATRIVIBE 693 LD (*Low Dusting*). We will be marketing this product worldwide and expect good sales of MATRIVIBE 693 LD in the future.

By means of independent tests we have determined that this is one of the best products on the market, and we firmly believe that together with our other insulating products MATRIVIBE 693 LD will be an important part of the development of pots in the future.

We are proud of being the exclusive distributor for this fine, American company.

Samples can be provided as can further details if required.

## **INSULATING FIREBRICKS**

We have been selling quite a number of insulating firebricks for the Pechiney carbon bakers at the Hillside project in South Africa. We definitely intend to go stronger into the field of supplying IFBs for the carbon bakers in the aluminium industry in the years to come. Our IFBs are produced by

**THERMAL CERAMICS ITALIANA**  
Casalpuusterlengo, Italy

&

**THERMAL CERAMICS**  
Augusta, Georgia, USA

and we hope to receive your inquiries for any quantity of insulating firebricks you might need for repair or even for completely new carbon bakers.



May I point out again that as it is the case with Siborit (soon) and Mosconi, Thermal Ceramics Italiana and Augusta are also ISO-9002 approved companies.

### **NITRIDE BONDED SILICON CARBIDE BRICKS**

As from October 1st, 1994, we have been granted the exclusive sales rights by

SAINT GOBAIN/NORTON  
INDUSTRIAL CERAMICS CORPORATION  
Worcester, Massachusetts, USA

for sales of their nitride bonded silicon carbide bricks, CN 137, as well as Mortar. These products will be marketed in the Australasian smelters by our colleagues of THERMAL CERAMICS AUSTRALIA and ourselves during our visits to this area.

The Norton quality CN 137 is one of the best qualities produced today, and we also look forward to doing business with this outstanding producer within the Australian and New Zealand smelters.

### **CATHODE BLOCKS**

For some years we have been dealing extensively with the Polish suppliers of cathode blocks, namely

ZEW in Racibòrz and  
POLGRAPH in Nowy Sacz

Both producers make excellent blocks, and we are representing both companies but on various markets.

We have had our data sheets for these cathode blocks reprinted, and we will discuss Polish cathode blocks with the respective smelters on the individual markets where we represent each of these two producers.

### **REFRACTORY BRICKS FOR ANODE BAKING FURNACES**

Some month ago we established an exclusive representation in certain markets of refractory bricks for carbon baking furnaces produced by

PRODUITS RÉFRACTAIRES POUSSEUR  
Vireux, France

These bricks are of a very high quality, competitive and are already sold to many smelters worldwide, especially those using the Pechiney anode baking furnace technology.

We are also proud of representing this French company, and again we will introduce these bricks to the smelters in the market places where we represent Pousseur (PRAP).

## **SODA ASH BRIQUETTES**

Soda Ash Briquettes is a relatively new product for us, and we have been successful supplying several trial shipments to various smelters worldwide. The advantages of the soda ash briquettes are among many:

- Popping caused by Soda Ash in the pots is virtually eliminated
- Dusting in the pot area is significantly reduced
- Carryout in the baghouse collectors is increased
- Overall housekeeping in the potline area is improved

The price is generally higher than that of ordinary loose soda ash, but we have seen that in the markets we have entered with the soda ash briquettes being supplied out of Utah, USA, the price of loose soda ash has been dropping considerably, but still many smelters use the briquettes because of the above mentioned advantages.

## **CERAMIC FIBERS**

Ceramic Fibers are widely used in various shapes and qualities within the primary aluminium industry. We will push the ceramic fibers produced by THERMAL CERAMICS DE FRANCE in their St. Marcellin plant situated near Toulouse even more in the year to come.

One of the new products is the ceramic fibre 607 which is harmless to humans.

We are also marketing vacuum formed fibers for casting purposes. These are produced by FIBERTEK in Italy also belonging to the Thermal Ceramics group.

## **A K W FOSSILIT-WERKE, ÜLZEN, GERMANY**

AKW is one of the world's last two producers of Moler Diatomaceous Bricks. During 1994 we have been very successful in selling some of their special shapes for special projects like the Pechiney designed carbon bakers at the Alusaf Hillside Smelter.

The quality is good and there have been no problems with neither quality nor delivery times. In the future we hope and work extensively on securing many orders for AKW's special products for similar projects.

## **MISCELLANEOUS**

### **Sales of Special Products (Beer)**

Visiting so many smelters situated in many different places all over the world, there are many different demands for various products. One of the funniest trades we were involved in was a supply of 50,000 cans of beer to an overseas smelter.

Morten has very good contacts to a Danish brewery, where one of his friends is the marketing manager, and via us the Danish brewery secured an order for 50,000 cans of beer, so we also make sure that our friends in the industry do not suffer from thirst.



Of course we did not make a profit on such a deal, but fortunately the brewery was so kind as to send us sufficient samples for our own approval of the taste of the beer, and they were very good "hick-up, hick-up, hick-up".

## Long Lifetime

The last time I was in Canada I visited Canadian Reynolds, and one of their furnaces had a lifetime of 4263 days. It is close to 12 years. That was an old furnace, wasn't it? At the time I visited Canadian Reynolds in Baie Comeau, it was still working properly.

## Cars produced from Aluminium

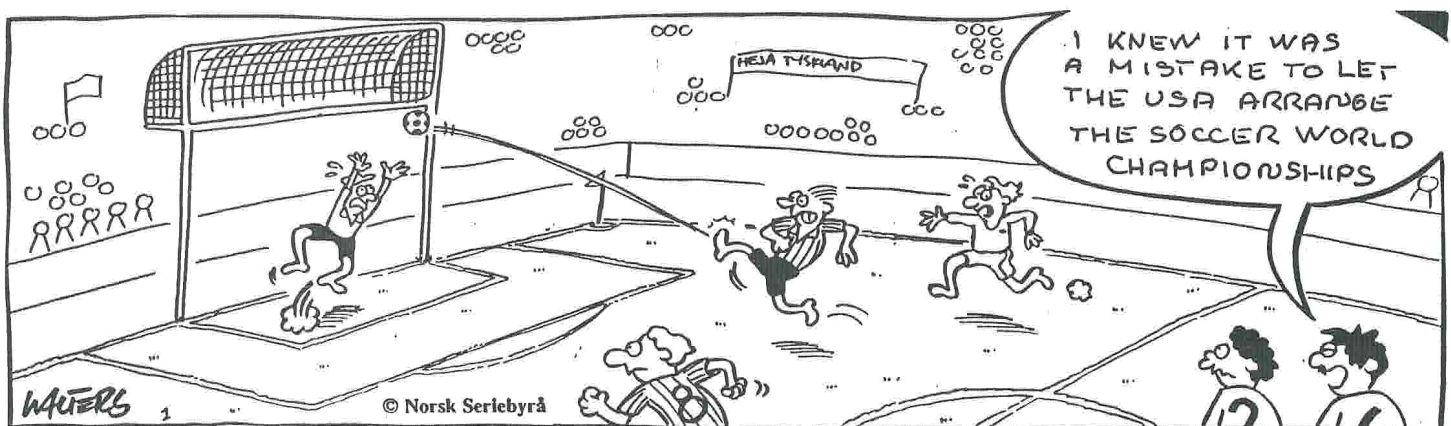
As you have probably read yourself in various magazines, papers etc. there is a bigger and bigger interest in and demand for aluminium for car construction. The leader seems to be Audi with their new car AUDI A8, but unfortunately it is such an expensive car, at least in Denmark, that only a few will be sold, but there is no doubt that the experiences the Auto-producers are getting successively, using a larger and larger quantity of aluminium, will result in a growing demand and that is of course what we all want to see, isn't it?

## The Soccer (football) World Championships in the USA, 1994

It was a fantastic event, and I do not know how many matches I saw myself, but I am as hooked on football/soccer as Americans are on American football, baseball and volleyball, and the English on soccer, cricket, tennis etc.

I enjoyed the matches and how well everything was organized, even though the players were suffering due to the high temperatures.

During the World Championships there was a drawing in the Danish papers each day and the cartoonist one day made a cartoon which I found especially funny



## The Great Belt Bridge

As Denmark is a country with 7,000 km (approx. 4,500 miles) of coast line, it is one of the countries in the world with most islands. This means that ferry traffic is necessary and quite popular in Denmark.

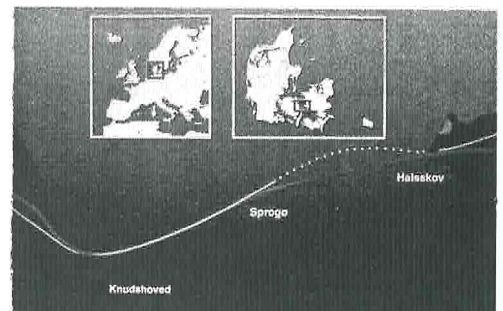
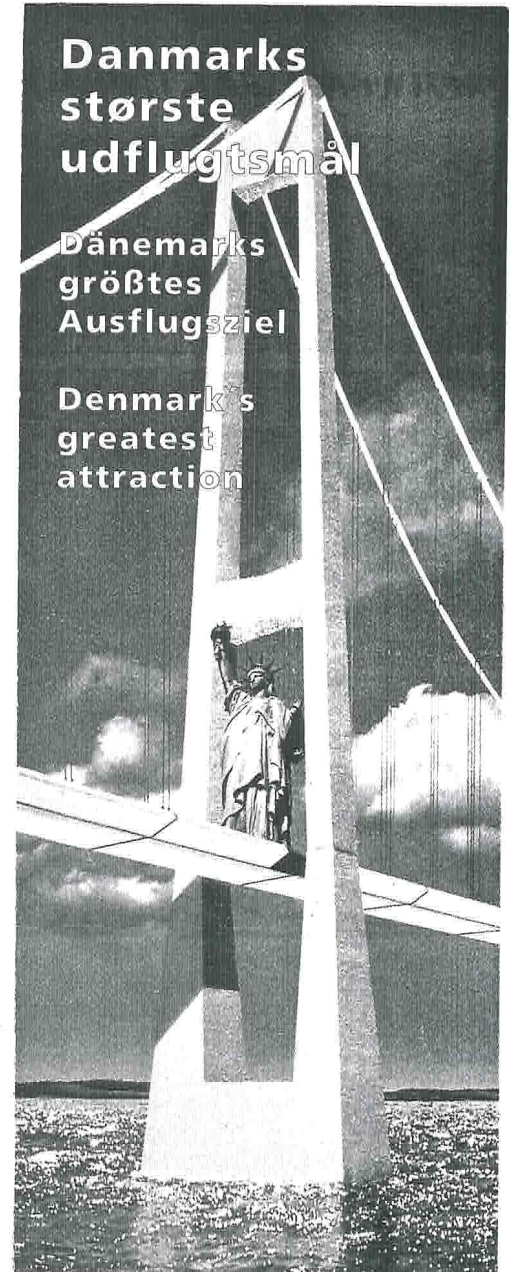
One of the world's biggest and most heavily trafficked ferry lines is the one between the island of Funen (Fyn) and Zealand (Sjælland), where huge ferries, the world's biggest, are crossing every hour, day and night, from both sides of the Great Belt. Some have 4 decks, each carrying an enormous number of cars.

However, some years ago the Politicians decided that we should have a combined bridge and tunnel from Funen to Zealand, and one of the largest bridges in the world is now being constructed in Denmark.

The West Bridge is 6.6 km long. It consists of huge precast concrete units, pier shafts and bridge girders that rest on 62 caissons, each of which weighs up to 7,000 tons. The bridge spans are up to 110 m (370 feet). Part of the project is an underwater tunnel which will be the second-longest of its kind in Europe. I assume that the chunnel between England and France is the longest.

The East Bridge is the world's longest suspension bridge. It is 6.8 km long. It will have a free span of 1,604 m (close to 5,500 feet) and the clearance under the bridge will be 65 m (approx. 220 feet). The main carrier cables are 3 km long and 85 cm thick (approx. 35"). A total of 10,000,000 m (approx. 330,000,000 feet) of wires will be used. The most impressive in that respect, in my opinion, are the two gigantic bridge towers, the so-called pylons, which are each 254 m high (some 850 feet). To make you understand how high they are you may imagine that it would take almost 6 statues of Liberty on top of each other to reach their highest point.

It is a fantastic bridge and tunnel project, and the price is even more fantastic, and probably the building sum will be 40 billion Danish Kroner (approx. 6.5 billion USD). For the first time in the history of road traffic in Denmark we will have to pay a toll to cross a bridge, but how many people will use it is probably still somewhat unclear, as all ferry lines, now governmental, are building completely new ferries, reducing their prices and their crossing time, and as at the same time many people are scared of going into the tunnel by the train, you might see that even after 20 to 30 years of use, it will still look new.





You have probably also got politicians in your part of the world making such costly decisions. Anyway the project is impressive and there will be something for overseas visitors to look at, when they come to this part of our country. The ferry lines claim, by the way, that the best way to view the bridge is to sail next to it on board a ferry !!

## The First Aluminium

Do you know the story about the first aluminium produced? Legend has it that the Roman Emperor Tiberius at a dinner was shown a plate of a new metal. The plate was very light and almost as bright as silver. The goldsmith told the Emperor that he had made the metal from plain clay. The Emperor became very interested and he was financially a little concerned because he believed that with this new metal the value of his treasures of gold and silver would decline, if people started producing this bright metal of clay. Therefore he decided to behead the goldsmith.

What a fate.....

If this story is true, it took nearly 2000 years before a human being again discovered methods of producing that particular metal. This happened in 1825, when the Danish physicist, Hans Christian Ørsted managed to produce a few milligrams of metallic aluminium by thermal reduction of aluminium chloride with potassium amalgam.

One of the first object ever made from aluminium, was a parade helmet which was used by the Danish King, His Royal Majesty King Frederick VII of Denmark in 1858. This helmet can still be seen at the Rosenborg Castle in Copenhagen, where all the Danish crown jewels are exhibited today.

## The Danish Election

We have just had our general election for the Danish Parliament which takes place every 4 year. This year a man from Aarhus ran for Parliament, and he is representing an organization called "The Association of Deliberately Work-Shy Elements". His programme is pretty special, and I think it made him quite famous worldwide. In case you did not hear about it, below are some of his promises to the Danish population:

- 1) Carpets in the pedestrian streets of Aarhus
- 2) More tail wind for pedal cyclists
- 3) More space on the food foil trays in the elderly homes
- 4) Shorter lines at the cash registers in the supermarkets
- 5) Mans right to temporary impotence
- 6) The lowest state pension for people without humour
- 7) More Rococo furniture at IKEA
- 8) More whales in the Danish fjords (we have none now)
- 9) More soft drinks in the Parliament
- 10) Young men for unmarried mothers
- 11) Harmonization of the Vacuum Cleaner bags

I wonder whether he is crazy or the voters are crazy, but he got 23,253 personal votes. It is the first time that a guy with a new programme has entered the Parliament on his own.

I think that the Danish voters have revolted against the ordinary, often very boring politicians, and even though I do not vote for this guy, I think that it is good fun that a guy like him enters Parliament, but what he is going to do there I just do not know. The Danish population of 5.2 million is anxiously waiting to see his entry in the Parliament and to follow what he is going to do for the next 4 years.

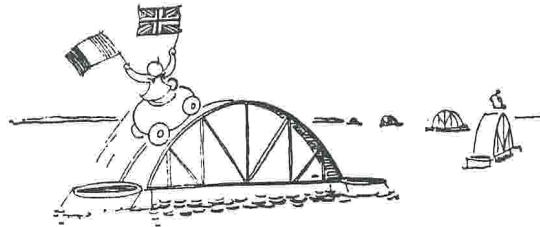
## Grooks

A poet once said something which I find is very good and I will repeat this as follows:

"Yesterday is but a memory and tomorrow is only a vision,  
but today well lived makes every yesterday a memory of happiness  
and every tomorrow a vision of hope. Look well therefore to this day."

It is really food for thought isn't it?

  
Jørgen



## BRIDGE OR TUNNEL?

Channel project.

A tunnel would be possible,  
a bridge would also do,  
but wouldn't it be better to  
amalgamate the two?

Let bridge and tunnel undulate  
in waves from shore to shore,  
keeping green the memories  
of those who went before





On 1 December 1994 we have been servicing the Aluminium Industry for

**10 years**

and above you can see the entire staff celebrating the anniversary.

On this special occasion we wish to take the opportunity to thank you for the trust that you have shown in our company and the successful business cooperation that has been developed during our first decade.

We eagerly look forward to continuing our service to you for many years in the future.

We wish you and your family a Merry Christmas and a Prosperous New Year.

**simonsen**  
& sons ltd



July 8, 1994

Mitsubishi Kasei America Inc.  
Composite Materials Division  
1214 Progressive Drive  
Suite 101  
Chesapeake, VA 23320

MITSUBISHI  
KASEI

Mr. Jorgen Simonsen  
Simonsen & Sons Ltd  
Mogelvangs Plads  
Nykebing Mors DK-7900  
DENMARK

Dear Jorgen,

Thank you very much for your letter dated June 27, 1994. I apologize for my delay in responding to you, however I have been on a number of business trips that have taken me to both Japan and Mexico during the month of June.

I am enclosing \$ 20.00 USD as evidence of our relationship, but my concern is as follows. I think present Al pricing is not a result of actual supply and demand relationship. I think just extra money going to commodity market because not only Al price but also the price of copper has increased the same as a result. Therefore I think this year is still maintaining reasonable lower levels.

Therefore I think within this year price may be a little bit down again to lower than 1400\$/mt. I have special logic between Al and Cu price.

$$\text{Cu}(\text{price}) \times 2/3 = \text{Al} (\text{calculated price})$$

as of June 29

$$\begin{aligned} \text{Cu} &= 2,355 \text{ \$/mt} & \text{Al} &= 1,450 \text{ actual} \\ & & \text{AL} &= 1,570 \text{ calculated} \end{aligned}$$

in this case copper is stronger than Aluminum but if Al price is more than this equation that may cause from real supply and demand condition on Aluminum market. Anyway I have more concern about Al price in 1995. I would like to discuss this again at the TMS meeting in Las Vegas.

Thank you again.

Best Regards,

*K. Mashio*  
Koichiro Mashio





# MATRIVIBE 693 LD

DRY BARRIER MIX FOR ALUMINIUM POTS  
AS A SUBSTITUTE FOR REFRACTORY BARRIERS

**simonsen**  
& sons ltd

Technical Data Sheet No. 1 - Sept. '94

|                    |                   |      |
|--------------------|-------------------|------|
| <b>Densities:</b>  | kg/m <sup>3</sup> | 2200 |
| Packed (installed) | lbs.cu.ft.        | 137  |

|                                  |    |      |
|----------------------------------|----|------|
| <b>Max. Service Temperature:</b> | °C | 1600 |
|                                  | °F | 2912 |

|                         |                          |   |              |
|-------------------------|--------------------------|---|--------------|
| <b>Particle Sizing:</b> | + 100 mesh (150 $\mu$ m) | % | 76.3 $\pm$ 5 |
|                         | + 200 mesh (75 $\mu$ m)  | % | 83.2 $\pm$ 5 |
|                         | + 325 mesh (45 $\mu$ m)  | % | 88.8 $\pm$ 5 |
|                         | + 325 mesh (45 $\mu$ m)  | % | 11.3 $\pm$ 3 |

## Thermal Conductivity - Packed:

(Radial Heat Flow Method)

|      |        |      |
|------|--------|------|
| W/mK | 200°C  | 1.07 |
|      | 400°C  | 0.90 |
|      | 600°C  | 0.88 |
|      | 800°C  | 0.89 |
|      | 1000°C | 0.92 |

|                   |        |     |
|-------------------|--------|-----|
| Btu/sq.ft.h°F/in. | 392°F  | 7.4 |
|                   | 752°F  | 6.3 |
|                   | 1112°F | 6.1 |
|                   | 1472°F | 6.2 |
|                   | 1832°F | 6.4 |

## Thermal Conductivity - Packed:

(Hotwire Method)

|      |        |      |
|------|--------|------|
| W/mK | 24°C   | 0.70 |
|      | 200°C  | 0.81 |
|      | 400°C  | 0.77 |
|      | 600°C  | 0.79 |
|      | 800°C  | 0.87 |
|      | 1000°C | 1.02 |

|                   |        |     |
|-------------------|--------|-----|
| Btu/sq.ft.h°F/in. | 75°F   | 4.8 |
|                   | 392°F  | 5.6 |
|                   | 752°F  | 5.3 |
|                   | 1112°F | 5.4 |
|                   | 1472°F | 6.0 |
|                   | 1832°F | 7.0 |

## Typical Chemical Composition:

|  |                                    |       |
|--|------------------------------------|-------|
|  | Al <sub>2</sub> O <sub>3</sub>     | 40.7% |
|  | SiO <sub>2</sub>                   | 51.5% |
|  | CaO                                | 1.1%  |
|  | Fe <sub>2</sub> O <sub>3</sub>     | 1.2%  |
|  | MgO                                | 2.4%  |
|  | TiO <sub>2</sub>                   | 1.9%  |
|  | K <sub>2</sub> O+Na <sub>2</sub> O | 0.9%  |

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**Dry Material Required:**

|                          |     |      |
|--------------------------|-----|------|
| per m <sup>3</sup> ..... | kg  | 2200 |
| per cu.ft. ....          | lbs | 137  |

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|                            |        |    |
|----------------------------|--------|----|
| <b>Storage Life:</b> ..... | Months | 12 |
|----------------------------|--------|----|

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**Packing:**

- 1) 25 kilo Bags (55 lbs) on export pallets =  
42 x 42 x 37"(107 x 107 x 95cm)  
  
64 bags per pallet - 10 pallets per container  
-----
  - 2) 1,500 kilo Super Sacks (3,308 lbs) on export pallets =  
42 x 42 x 37"(107 x 107 x 95cm)  
  
1 bag per pallet - 10 pallets per container
- 

Physical and thermal values are based upon regular average test results.

No warranty or guarantee is implied on the data which is given in good faith.