THE HISTORY OF CONCRETE PAVING BLOCKS IN NORWAY.

by

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Summary

Norway is a small country with a small production of paving products. The real production was started in 1970 and is today only 0.25 m2 per capita. Norway is fortunate to have a lot of high quality aggregate, and this has lead to special type of products with high quality.

Start of production

1970 was the turning point for use of paving blocks in Norway. There was only a small amount of import to the country when production started at Spydeberg and in Sandnes, and both factories installed new production plants for paving blocks.

In Sandnes O. C. Østraadt invested in both new building and machinery. Østraadt had been looking for a new type of product, and when they where asked to deliver concrete paving blocks to Shell's new oil refinery at Sola they made the final decision.

After a thorough evaluation of production equipment they decided to buy a Schlosser machine in 1969. This was a large machine for the Norwegian market. The machine had a pallet size of 1400 x 700 mm and can produce products up to a height of 350 mm.

Parallel with this work in Sandnes there was looked into the possibility to start production of concrete paving blocks in Eastern Norway. G-Stødet Norge A/S had started production of kerbstones, and was now looking for additional production. As adviser they used K.A.Rasmussen in Roskilde, Denmark. He had already many years of experience in production of paving blocks. He introduced them to ASG in Bremen to get a licence for production of SF-Stone in Norway.

Østraadt got in contact with G-Stødet and decided to buy the same type of machinery. This gave both producers several advantages: A better deal with Schlosser, possibility to exchange moulds and spare parts, and technical information. Both machines were installed in 1970.

These two producers were not competitors as the distance between them was too great. Therefor it was quite natural that they decided to produce the same type of products and use common moulds.

G-Stødet had already made an agreement with the Uni-group for a license on their products in Norway. Østraadt produced this products on a sub license from G-Stødet. ASG in Bremen asked for

only one partner in Norway, and G-Stødet and Østraadt formed SF-Stone Norge to hold the license. This was on a fifty - fifty base.

If I am to mention anyone in particular from this period, it will have to be P.A.Svarstad and Esbjug from G-Stødet Norge, with Arne Gjessen and Kaare Haukland from O.C.Østraadt.

Development of the market

Both companies put a lot of effort into new products and they got a reasonable increase in sale. They worked with all types of use: Streets, market places, bus terminals, parks, industrial areas and private areas.

But for G-Stødet this was not enough to cover the investment cost, and after two years the majority of the shares were sold to SF-Sten in Roskilde. Together with Svarstad they ran the plant, but they were not able to make a profit and sold the whole plant to Norsk Leca in 1977. Norsk Leca sold most of their products through dealers. But this was too expensive to compesate for cost. They did not keep up the quality and reduced the thickness to 5 and 7 cm. This gave the products a bad image and they lost important parts of the market. The calculating cost the consultants used in Eastern Norway was 320,- NOK per m2 including bedding sand. For the Stavanger area this was down to 140 - 160 NOK per m2. The start in Eastern Norway was really made difficult.

In 1976 Østraadt got a competitor in Hafrsfjord Industri. They installed a Knauer machine and chose the Rosestone pattern. The competition from this new production plant meant a lot for the development of the paving block market in the county of Rogaland. This increased competition was on the whole positive, it gave an inspiration to the marketing people to be best in quality and price. Production costs were reduced and quality increased. By employing and training people in laying of blocks the total cost was reduced dramatically. The total cost for a paved area in the Rogaland area was under the half of what it was like in Eastern Norway. The sale figures broken down to m2 per capita for this area, were 3 - 6 times compared with the rest of the country. And both companies gained more through volume than they lost through price reduction.

In 1982 Østraadt bought the plant at Spydeberg from Norsk Leca and now they had well over 50% of the Norwegian market.

In 1983 Østraadt made an agreement with Van de Reijt on solitary rights for his products in Norway. Through the takeover of the Spydeberg plant they had got the rights for the UNI products and all the shares in SF-Stone Norge. This meant that Østraadt now had contract with the three major innovation companies in the world, and all new developments were presented to Østraadt. From now on O.C.Østraadt is the dominating paving block producer in Norway.

The first part of the eighties had a good growth in sale figures.

Østraadt's two plants and Hafrsfjord Industri's plant more or less ran to full capacity. This gave a turning to more high priced products with the decorative aspect to be the main feature: used on pedestrian areas, parks, market places and domestic areas. 80 % were on areas like this, only 20 % were for heavy duty areas like harbours, industrial areas, bus stops and trafficed streets.

Developments in the last 7 years

In the last part of the eighties Norway also got its part of the depression. The paving block industry did not lose market in this periode, but the growth stopped. For the producers of building blocks the situation was dramatic. Their sales dropped 70 - 80 % and they were therefore looking for new products. A number of them found concrete paving blocks to be an interesting product, and the main investment was only new moulds.

From 86/87 to 88/89 the production capacity in Norway was increased from approximately 800.000 m2 to 2.500.000 m2 per annum, - this on two shifts. The total sale the last year had been approximately 800.000 m2, including import.

One person that realized the problem with the great overcapacity was General Manager Svein Frøiland at Østraadt Stein (daughter company of O.C.Østraadt). In 1988 they increased their production capacity from 400.000 m2 to 1.000.000 m2, - this on two shifts. The machine they bought, a Columbia block machine, is fairly heavy and can make high quality pavers with good accuracy. This opened the possibility for new types of products and new markets.

Frøiland started a market campaign towards the neglected part of the Norwegian market like harbours, airports, industry, roads and other heavy duty areas.

His motto became "if you have any problem area, - we can solve the problem with concrete paving blocks, either outdoors or indoors". This gave development of new products and openings to new markets.

Norway has still a low sale per person, only 0.2 m2 per annum. But the work Østraadt Stein has put into the market has brought Norway to a second place in use of pavers on airports, approx. 54.000 m2, plus a further 5.500 m2 at Sola airport this year.

No research work has been done in Norway, but Østraadt Stein has done a lot of development work on special products. They have made special pavers to be used on floors in smelters. With success these pavers will be able to withstand temperatures above 800 degrees C and have a very high wear resistance. They have also developed products with special aggregate and high strength 75 Mpa (Din 100 Mpa) to take the special wear from studded tyres, and will last 3-4 times longer than good quality asphalts. These pavers have also been used on other areas exposed to heavy wear.

The product specter in Norway has been dominated by shaped blocks, 10 to 12 different shapes. Rectangular blocks have mainly

been used for decorative purposes. This may well alter since the Civil Aviation chose rectangular pavers for the new apron at Trondheim Airport Værnes in 1993. (26.000 m2.)

Norway is a grey country, only 18 to 20 % of the products are coloured. Most customers prefer grey, not wanting the pavers to be too dominating. Others find the coloured products too expensive.

Present situation

Today there are 18 companies producing pavers according to the Norwegian Standard. Of a total annual market of 800.000 m2 Østraadt Stein has approx. 350.000 m2, the rest is shared between the other 17 companies, - and import.

The potential for growth in the Norwegian market seems to be good. Building activity is increasing and Norway has again growth in the economy. Part of the potential growth is through cooperative work. Since 1992 the industry has had a common brochure which presents different uses of paving products and different types of products on the market. This brochure is distributed all over the country.

The minor producers have problems with new developments and therefore seven of them have started a cooperative work on quality, development and market approach. But we have far to go before the sale figures reach the same level as the production capacity, which is only 0.6 m2 per capita per annum, and should be possible to achieve if we put our mind to it. In this case I am not only thinking of the producers, but also about the users and people planning pavements.

I once got the question: What have architects, consultants and people planning streets, pavements and other paved areas done to widen the use of concrete paving products in Norway? And for not to offend anyone my answer is: Next to nothing!

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SALE OF CONCRETE PAVING BLOCKS IN NORWAY 1970 - 93
(in 1000 m2)

