Quality through 40 years

KONTROLLRÅDET

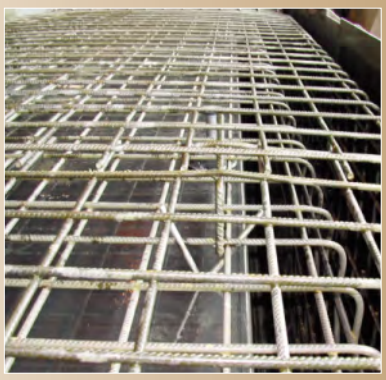
Quality through 40 years

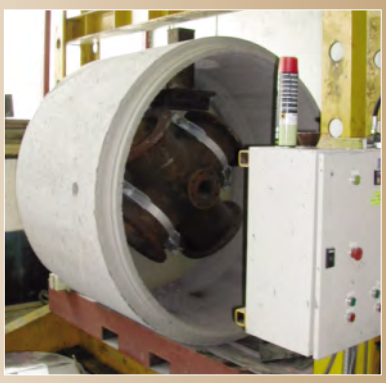
Large quantities of concrete were delivered from the Stange Group's installation at Filipstad in Oslo, contributing to the building and development of the capital.

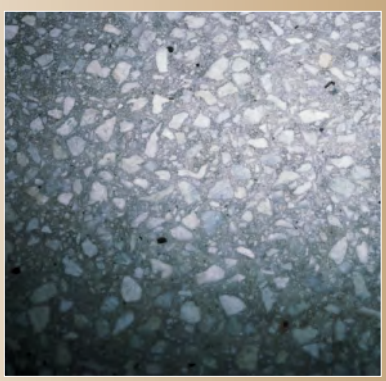
The Telenor building at Fornebu is of the same size as the terminal building at Gardermoen Airport in Oslo.

40 years

Kontrollrådet has a great range of responsibilities. The series of images are showing a few glimpses of the tasks that Kontrollrådet is working on every day.







Quality through 40 years has been produced by Byggeindustrien, in co-operation with Kontrollrådet, in connection with their 40th anniversary in 2007. Editorials: Per Helge Pedersen. Typography: Christian Aschjem.

Front-page image: This is the way it looks when bridge, road and tunnel melt into each other. The company AS Veidekke's OPS-project at the South Coast of Norway is a great example of what the Norwegian building industry can create. Photo: Ole R. Paulsen, AS Veidekke

Kontrollrådet is uniting the countries of Europe

At the present time Kontrollrådet has activities in 16 countries. Kontrollrådet has in many ways contributed in the uniting of the countries of Europe in this field. Kontrollrådet has recently gotten commissions also outside of Europe, in South-Korea and in China, to be more exact.

Editorial:

Kontrollrådet is looking to the future

Jan Karlsen

When Kontrollrådet was formally founded, on December 19. 1967, it happened upon initiative from the trade organisations within ready-mixed concrete and concrete products, in cooperation with the Kommunaldepartementet (Ministry of Local Government and Regional Development).

Thus the establishing was wanted by the industry-side, and we have, therefore, all the way from the start been deeply rooted in the trade, through the composition of Kontrollrådet's board of directors.

During these 40 years we have emphasized the importance of having co-workers, with a high degree of competence within the areas we operate. This, together with a strong focus on costs, through efficient planning of travel, have also been an important and contributing factor to our strong position.

During the later years we have, with the future in mind, seen a development relative to the growth in trade across the borders, as a result of the EEA-Agreement. One of the greatest challenges in this connection is that the building codes in the different EEA-countries are not coordinated. This means, that a producer of building materials, in accordance with a common European product standard, for built-ins in a building construction in a given country, not necessarily may be applied without more ado, in a building construction in some other country.

Buyers, builders and public authorities are all facing great challenges in this area, as the trade across the borders is growing. This does not only apply within the EEA-area, since we are seeing growing interests for imports from other countries as well.

Here we do not just have a responsibility alone, however, but also the public authorities and trade organisations must carry their share of it. A co-operation between the different operators in the information-area will therefore, be of utmost importance in the times to come.

For us, as well for the rest of the trade, we do see a challenge in the recruiting of new co-workers, with the necessary qualifications. It will continue to be important for us to have co-workers with knowledge of the trade and professional competence, within the areas we operate.

We do, however, look forward to a continued and good co-operation with the operators in the trade, for the years to come, and we are of the opinion that we together shall continue to "pull" in the right direction, like we have been doing for the past 40 years.

Jan Karlsen,
Managing Director,
Kontrollrådet

The Science Building at NTNU has become a great concrete construction.

The Chairman of the Board:

A fantastic development

Arne Haldorsen

So many unusual things have happened with Kontrollrådet during the first 40 years of the institution's activities. I am extremely proud of being chairman of the board for this important institution, in this year of celebration.

Four decades have now passed since the founding of Kontrollrådet for concrete products. From being a small institution with great visions, the Kontrollrådet has become an international concept. We are now established in 16 countries, and we carry out commissions for several hundred companies. This would not have been possible without all the men and women, who have been working so hard for Kontrollrådet during all these years. We have built up a centre of competence, from which many may benefit today. The ones of you who have been, and the ones of you who are presently working for Kontrollrådet, have done a fantastic job, and I am proud to see the results, which have been and still are being achieved.

Even if we may look back at 40 successful years, we must also, with all this gathered competence, dare to look ahead. We have come very far, but we shall stretch even further. We shall develop ourselves further, and acquire even more knowledge. The knowledge shall be applied towards our customers, who will have the pleasure of utilizing our services. We do, not the least, have great opportunities in the great markets abroad.

During the later years we have also entered – for us – new areas. For us this has lead to bringing new knowledge into our ranks. And we shall know how to take advantage of this new knowledge.

Our goals must be to develop ourselves further, as a competitive institution, and the focus shall be directed towards our supply of top quality.

Congratulations on the 40 years' celebration!

Arne Haldorsen,
Chairman

Concrete
Reinforcement
Aggregates
Asphalt

The year of celebration, 2007

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The board of Directors:

Kjersti Kvalheim Dunham	Statens vegvesen (The Norwegian Public Roads Administration)
Arvid Bråten	Norsk Kommunalteknisk Forening (The Norwegian Association of Municipal Engineers)
Trygve Isaksen	Norsk Betongforening (The Norwegian Concrete Association)
Per Arne Dahl	Forsknings- og prøvingsinstitusjonene (The Research and Testing Institutes)
Arne Haldorsen	Byggevareindustriens Forening (The Norwegian Association of the Building Product Industry) – Chairman of the board
Alfred Ollendorff	Pukk- og grusleverandørenes landsforening (The Norwegian Aggregate Producers Association) – deputy chairman
Randi Egeland	Betongelementforeningen (The Norwegian Precast Concrete Product Association)
Otto Poulsen	Norsk Fabrikkbetongforening (The Norwegian Ready-Mixed Concrete Association)

Certification of the production of concrete paving blocks is also one of the tasks of Kontrollrådet. This means that one is reaching out in all directions of the World.

Employees:

Jan Karlsen - Managing Director
Takes care of all daily management of the administration and is the secretary of the board.
He works within all of Kontrollrådet's areas of activities.

Vera Næss - Office manager
Finances, personnel, office administration and correspondence. Works part time.

Steinar Ask - Techical manager
Deputy manager – Research and Development-
Audits and follow-up within all areas.

Arnhild Helland - Secretary
Correspondence, follow-up and filing - Administration and maintenance of data base. Works part time.

Alf Askeland - Auditor
Auditing of associated companies, in the counties of Rogaland, Hordaland and Sogn and Fjordane

Jarle Berntsen - Auditor
Auditing of associated companies, in the counties of Østfold, Akershus, Hedmark, Oppland, Troms and Finnmark

Steinar Frost - Auditor
Audits and follow-up within aggregates and ready-mixed concrete.

Svein Hegseth - Auditor
Audits and follow-up within ready-mixed concrete, concrete elements and aggregates.

Odd Slungård - Auditor
Auditing of associated companies, in the counties of Møre and Romsdal, South- and North-Trøndelag and Nordland

Terje Søreng - Auditor
Auditing of associated companies, in the counties of Oslo, Buskerud, Vestfold, Telemark, Aust- and Vest-Agder

Roar Vigre - Auditor
Auditing of associated companies, in the counties of Oslo, Buskerud, Vestfold, Telemark, Aust- and Vest-Agder

Anne Grethe Hewitt - Department engineer
Ikt-leader - Deputy for technical manager. Works part time.

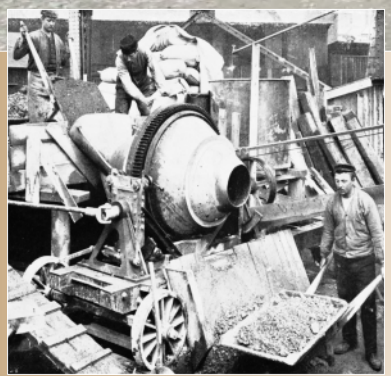
Ingvild Hudø Jørgensen - Department engineer
Projects and developments within the scope of aggregates and other areas.
Audits and follow-up of the producers of aggregates. Works part time.

Atle Balchen Gjertsen - QA-manager/auditor
Audits and follow-up of concrete and producers of aggregates.

Bjørn Lage Tjernshaugen - Auditor
Audits and follow-up of the producers of aggregates.

40 years

High demands are put on aggregates, which is an important ingredient, both in concrete and asphalt. Large volumes of crushed stone and gravel are in addition going into sub-base for building sites and roads. The small images are historic glimpses, showing how important human strength was.



Many different bodies for cement and concrete

Kontrollrådet for concrete products and ready-mixed concrete was established in 1967, with operation from January 1. 1968. This establishment was made into a free-standing control council. The discussion regarding quality and control had then been going on for several decades, but 40 years ago this work became more manageable.

Both the mandate and the areas of activity developed after that, into what is today known as Kontrollrådet. Kontrollrådet is now working with several different materials and in many countries.

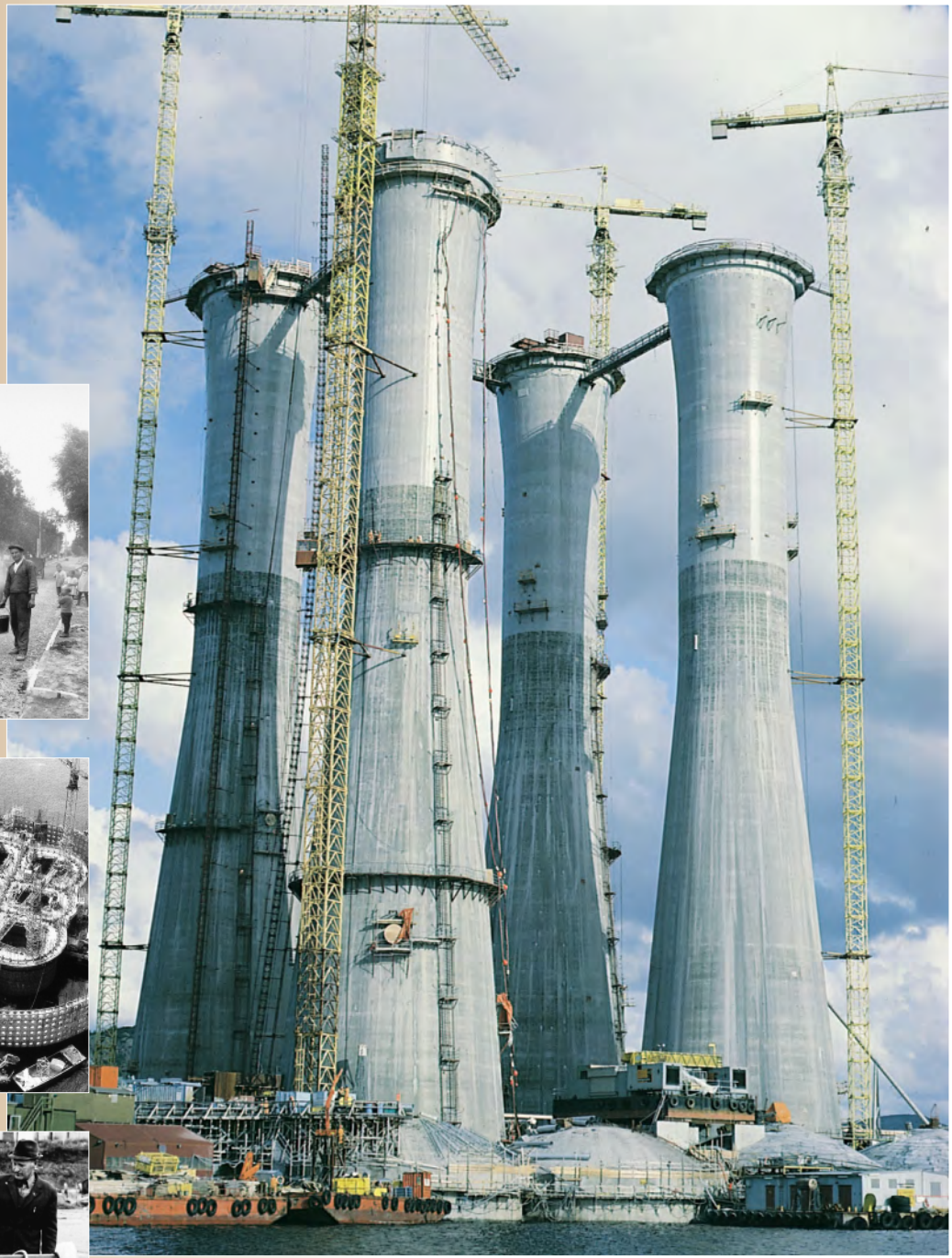
The use of concrete for all kinds of constructions in Norway developed during the entire last century. This also triggered a debate, regarding quality and control. This first happened in the big trade association, that was formed - Norsk Cementforening (Norwegian Cement Association), which was established in 1927, as a joint body for the three cement factories in Norway at that time, A/S Christiania Portland Cementfabrik, Slemmestad, A/S Dalen Portland Cementfabrik, Brevik and Nordland Portland Cementfabrik A/S at Kjøpsvik in Tysfjord. These factories were later merged into what in modern time is known as Norcem.

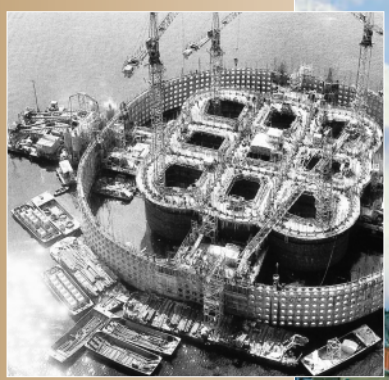
Norsk Cement association had many tasks.

The association worked throughout the country, for increased use of concrete in every industry. Great emphasis was put on technical development of the products. A voluntary internal control of the production was also developed. A great information work was carried out in addition, through the periodical "Betongen Idag" ("The Concrete Today"), among other places.

In 1928 the producers established Cementbedriftenes Prissammenslutning (The Cement Producer's Price Union), which later became Norske Cementfabrikkers Forening (Norwegian Cement Producers' Association). The membership was open for all producers, who satisfied the requirements to good quality, of Norges Kommunale Ingeniørvesens Forening (Norway's Municipal Engineering Association). Some of the producers, who did not become members in it, did in 1949 establish Norges Betongvarefabrikkers Forbund (Norwegian Concrete Product Producers' Association).

Condeeps (The Condeep Platforms) changed Norway





The concrete platforms are fantastic constructions. This is the Statfjord C-platform, which was installed at a 146 meter depth in 1984. A number of Condeeps were built, where large volumes of oil and gas are now being pumped up. The question is; will the Condeeps return? The small images show glimpses from asphalting in the old days, the Ekofisk tank and pressure testing of concrete pipes.

Kontrollrådet's history:

Important happenings

■ Norsk Betongforening (NB (Norwegian Concrete Association)) was founded in January 1955. The association was associated with Den Norske Ingeniørforeningen (NIF (The Norwegian Association of Engineers)), today named Tekna.

■ Betongforeningen has a great number of personal members, also outside of the civil engineers' association, in addition to a good number of corporate members.

■ Betongtavlen (The Concrete Plaque) was for the first time awarded in 1961 by Norsk Betongforening. This awarding is now taking place in co-operation with Norske Arkitekters Landsforbund (Norwegian Architects' Union).

■ Norsk Fabrikkbetong Forening – NFBF (The Norwegian Ready-mixed Concrete Association) was etablished in 1964.

■ Norges Betongtekniske Institutt – NBTI (The Norwegian Concrete-Technical Institute) was established in 1967, in connection with NTH (the Norwegian Technical University) in Trondheim.

■ The new institute was located at Forskningssenteret (The Research Centre) at Blindern in Oslo. There were four trade departments: Norsk Cementforening (cement), Fabrikkbetongavdelingen (ready-mixed concrete), Betongproduktavdelingen (precast concrete products) and Armeringsstålavdelingen (reinforcement).

■ NTH, later NTNU has been central within the cement- and concrete research in this country. The development of the concrete platforms resulted in considerable amounts of money for research and development. The golden age itself, for this research, took place after Forskningsinstituttet for Sement and Betong (The Research Institute for Cement and Concrete) had been established at NTH in 1965.

■ Kontrollrådet for Betongprodukter (Concrete Products) was then established in 1968. This activity was co-localized with NBTI.

■ In 1971 the Betongdagen (The Concrete Day) was arranged for the first time.

■ When Norges Betongtekniske Institutt (NBTI) was dissolved in 1972, each trade department continued the individual trade department as independent institutions, in shared offices at Kjelsås near Oslo, and got the name Betongsenteret. Betongelementforeningen (The Concrete Element Association) (established in 1972) was in the forefront for the establishment of such a centre.

■ NFBF got its own service office in 1981, and changed the name in 1984 to Fabrikkbetongkontoret-FBK (The Ready-mixed Concrete Office) and later – in 1987 – to Norsk Fabrikkbetongkontor-FABEKO (Norwegian Ready-mixed Concrete Association). FABEKO has later held annual conferences.

■ In 1979 Norges Betongvarefabrikkers Forbund (NBVF)changed its name to Norges Betongindustriforbund (NBIF)

■ In 1980 Pukk- og Grusleverandørene – PGL (The Norwegian Aggregate Producers Association) established its own union

■ In 1991 the Betongsenteret moved into the new BA-center in Byggforsk's premises at Forskningsveien at Gaustad in Oslo. The activity shared premises with Mursentret. This then led to the merged company, Mur og Betongsenteret. This constellation did not become a permanent solution – and after a short period of time the Mur og Betongsentret was dissolved.

■ After that most of the concrete interests have been united in Norsk Betongforening, in the Betongelementforeningen and in FABEKO. When it comes to precast concrete products, the activity has been handled by new company constellations.

■ Other than that there have been several publications, directed towards the concrete trade. "Betongen I dag" has already been mentioned. And BetongProdukter, later named Betongindustrien, has been an important magazine. This magazine has now been melted together with Byggeindustrien, which runs several special editions about concrete throughout the year. But also many other trade journals in Norway have been running much about concrete matters in their columns. Internet is also becoming even more interesting. All organisations now have their own websites. All available matters, which have been presented in Betongindustrien /Byggeindustrien, may now be found on the Internet, on www.bygg.no

40 years

Thousands of bridges have been built in Norway. The most important materials have been steel and concrete. The small images show the way to a concrete bridge, concrete pipes, ready for delivery and how concrete may make the most beautiful road constructions.

Photo: P. Bugge/Ølen Concrete

Kontrollrådet's history:

Kontrollrådet for concrete products (KR)

The thought of building up of a quality control in the concrete industry had been discussed for a long time. But, these plans were only realized in 1968. Kontrollrådet for concrete products and ready-mixed concrete, later Kontrollrådet for concrete products was then established. The Danish chief engineer, Olfert Karlsen, was a member of the board of Norsk Fabrikkbetong Forening. The summer and fall of 1967 he got the commission to consider the establishment of a Norwegian control council for concrete products. In January 1968 he was employed as manager of the new council, which was established upon agreement with Kommunaldepartementet.

Before this a separate "Quality control committee" had been working with the matter within the Fabrikkbetongforeningen. The task of the committee had been to work out a proposal for terms of authorisation, for production and transportation of ready-mixed concrete. This arrangement was to be voluntary. The Department did not want to accept any form of voluntary arrangement – and with that the new control institution was a fact. The arrangement was made mandatory, through preparation of a separate regulation, deeply rooted in the Plan- and building law. After the establishment of Statens bygningstekniske etat -BE (The National Office of Building Technology and Administration) by the Kommunal- og arbeidsdepartementet (Ministry of Local Government and Regional Development) in 1985, it is now BE that is the managing body for Kontrollrådet.
It was not only easy to start the new control work. Close to 500 large and small companies should be examined, and technical regulations should be introduced. Thanks to the efforts of Olfert Karlsen, it all went well, however. Unfortunately he died in September 1992, only 63 years old.

Not everybody was all that enthusiastic about the new control system. One statement, that might perhaps cover the attitude of many, was: "I have started with two empty hands and built up this production plant. It has given me the means of livelihood. Now you people from the city are coming, causing difficulties for me". But, by giving people time, the development has really been going well.

A lot of work on control measures had already been done before the establishment of Kontrollrådet, but that work was primarily of a more voluntary nature.

Betongrørkontrollen (The concrete pipe control) was established as a voluntary arrangement as early as in 1920, by the Norsk Kommunaltekniske Forening (Norwegian municipal-technical association).

Betongvarekontrollen (The concrete products control) was a statutory control, which was established in 1948, by the Kommunal- og arbeidsdepartementet (KAD).

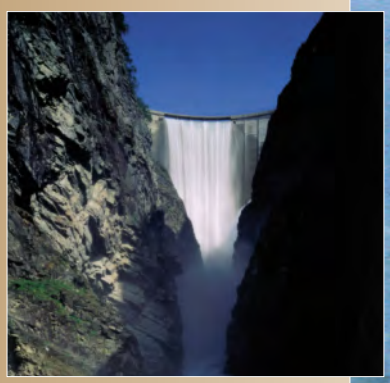
Betongelementkontrollen (The concrete element control) was established as a voluntary control arrangement in 1960. Engineers associated with municipal bodies and Norsk Cementforening took out samples for these arrangements.

The concrete descriptions are important

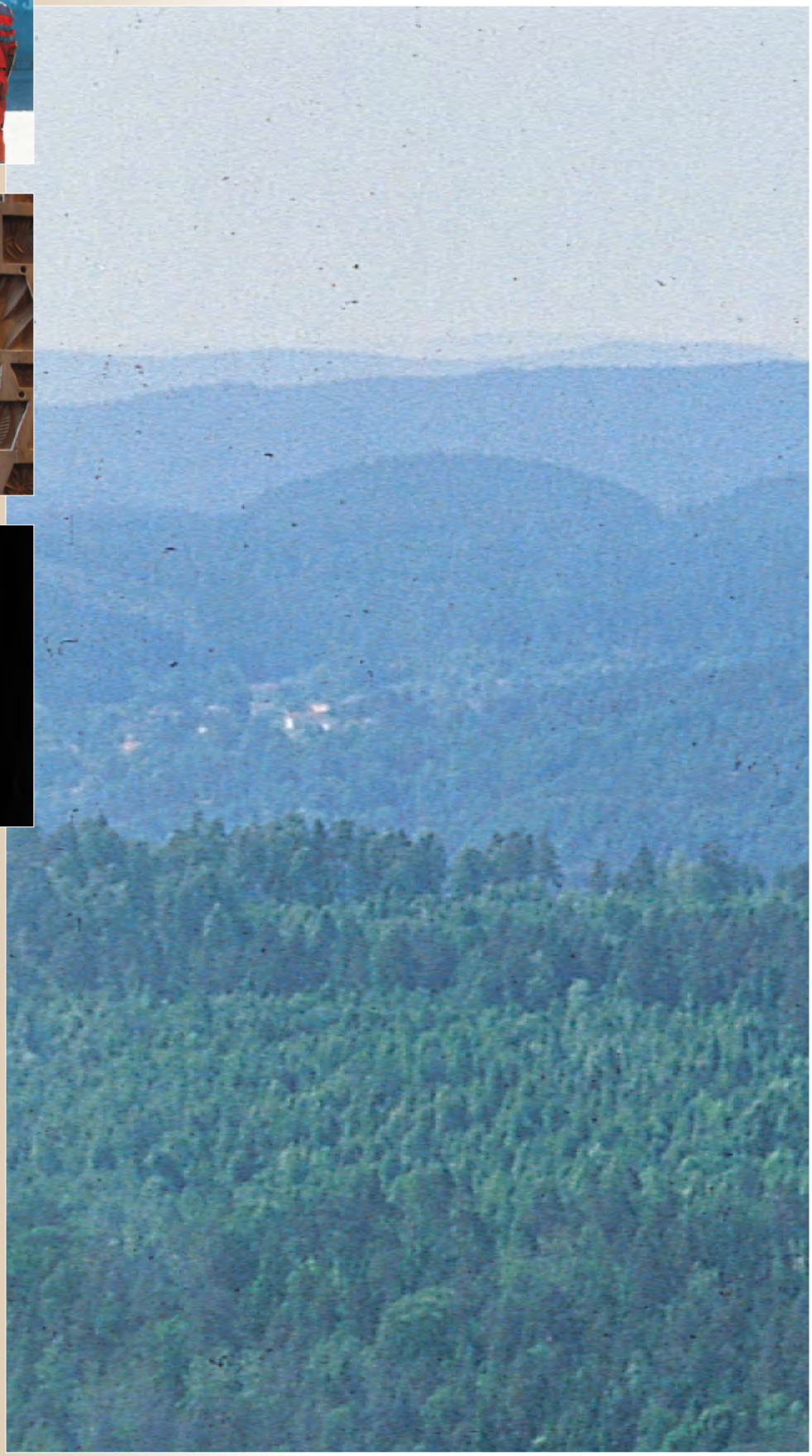
During the later couple of decades the concrete technology has gone through great developments. The use of different additives and added materials, in order to control the material's properties, has become quite common. All certified concrete factories do today have equipment for – and competence – to make use of different additives and added materials.

The concrete standards reflect the development that has taken place within the concrete technology. The regulations shall take care of safety, but also durability to a much higher degree that earlier. Introduction of environmental classes is an important tool in securing long life for concrete constructions. As a result of this concrete has become a more complex material. It is therefore more important than before, that the descriptions and specifications of concrete are correct. The introduction of new environmental classes did, during a transitional period, lead to a number of unfortunate descriptions of concrete.

The new environmental classes were at the end of the 1980-ties included in Norsk Standard (Norwegian Standard), however. The formal requirements to concrete appear in NS 3473 (1989) and NS 3420 (1986). Statens vegvesen (The Road Administration) has in addition developed a separate Process code 2, especially applying to concrete for bridge projects and quay structures. The tightened requirements is especially applying to higher demands to reinforcement cover, higher demands to density of the concrete, through lower mass ratio and demands to the use of silica



Norcem's cement factory at Brevik is a large and modern factory. At the upper left is a picture from laying of asphalt, the one at the centre shows how concrete is being used in an alter piece and the one at the bottom shows the huge Zakarias dam at Sunnmøre.



Concrete
Reinforcement
Aggregates
Asphalt

Highlights:

Kontrollrådet's development during the later 10 years

1998

■ Comprehensive work was done with the completion of the certification of the ready-mixed concrete producers, in accordance with the new technical regulations. The regulations were published in 1996, and the work with the introduction of those started in 1997.

■ Kontrollrådet's Technical committee for reinforcement started the work with revision of the technical requirements, for adaptation in relation to the requirements, which would be coming through the European standards prEN 10080, for ordinary reinforcement and prEN 10138 for prestressing steels.

■ Kontrollrådet starts the process and sends application for accrediting for product certification, to Norsk Akkreditering (Norwegian Accreditation). It is also, at the same time, being sent an application to Statens bygningstekniske etat, for notification as technical control body, in accordance with Teknisk forskrift (Technical regulation) 97, chapter 5. The work is being done as a part of the adaptation to the new European system for documentation and certification, stated in the Byggevaredirektivet (Constructionj Products Directive).

■ Kontrollrådet establishes its first website.

1999

■ The process with accreditation is being concluded by the fact that Kontrollrådet is being awarded a proof of accreditation, for certification of products. Kontrollrådet does also get an advance notification as a technical body, from Statens bygningstekniske etat.

■ Kontrollrådet is working with a larger change of its fee system, for introduction from year 2000. The fee system is being changed, from a fixed annual fee to an annual fee, as well as to invoicing of actual costs, following each inspection visit.

■ The first harmonized, European standard, which gives a basis for CE-marking for Kontrollrådet's areas of activities, is: NS-EN 197-1 for cement may be taken into use.

■ Kontrollrådet starts the work with application for accrediting for certification of quality systems as well, in accordance with NS-EN ISO 9001.

2000 – 2001

■ Kontrollrådet is being warded proof of accreditation for being able to carry out certification of quality systems as well, in accordance with NS-EN ISO 9001.

■ Kontrollrådet starts on a larger piece of work, in order to get acquainted with and being able to inform about new requirements, as a result of the harmonized standards, which are in process in CEN.

■ Start of a larger, several years of information activities, directed towards the trade, through meetings as well as letters of information, regarding requirements and demands in the coming standards.

2002

■ IKontrollrådet starts the work with accrediting for environmental certification, in accordance with NS-EN ISO 14001.

■ It is being worked on a study for establishment of new arrangements, within the areas of certification of additives, added materials, new areas of use, as well as workshops for reinforcement.

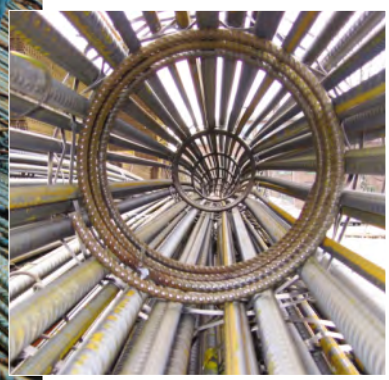
2003

■ Kontrollrådet is being awarded proof of accreditation for certification of environmental control systems, in accordance with NS-EN ISO 14001.

■ Kontrollrådet starts the work on preparation and introduction of the new European standard for concrete: NS-EN 206-1, with its national application document.

■ More than 200 ready-mixed concrete producers are getting a completely new standard to relate to.

■ Kontrollrådet issues its first certifi-



They are being called concrete platforms, but enormous volumes of reinforcement steel are in addition being used in the constructions.

The upper right is showing which lines one may find in the reinforcement, before the concreting. The well known drawing at the centre shows the dimensions of the concrete platforms, in relation to constructions like Oslo Rådhus (City Hall), the Eiffel tower in Paris and the pyramids in Egypt. One of the newest and most modern concrete stations i n Norway is Unicon's installation at Sjursøya in Oslo.

cate as a notified body. The certificate is being issued for production of admixture for concrete, and forms basis for CE-marking and entry into countries in the entire EEA-area.

2004

■ New European standards are now coming continuously. This gives Kontrollrådet a great challenge, with regard to preparation for certification, with basis in those, as well as for informing the companies to a sufficient degree, about introduction of them and the consequences of having to relate to the new standards. The need for information is high in general, with regard to requirements and demands to CE-documentation and CE-marking.

■ The work with certification, according to new standards starts within the following areas of production.

– **Ready-mixed concrete:** NS-EN 206-1
– **Pipes and manholes:** NS-EN 1916 and 1917, as well as NS 3129 and NS 3139
– **Concrete paving blocks and concrete flags:** NS-EN 1338 and NS-EN 1339
– **Mortar:** NS-EN 998-1 and -2
– **Aggregates:** NS-EN 12620, NS-EN 13043, NS-EN 13055-1 and -2, NS-EN 13139, NS-EN13242, NS-EN 13450 and NS-EN 13383-1

■ Especially within the scope of aggregates Kontrollrådet experiences a strong growth in new applications, as a result of the fact that new areas now requires certification, in addition to only having certification for aggregates for concrete, as was the case previously.

■ Simultaneous introduction of many new standards, as well as many new applications, present a great challenge when it comes to Kontrollrådet's manning and capacity.

2005

■ It was a most labour-intensive year, with certification of about 350 companies within ready-mixed concrete and aggregates.

■ Kontrollrådet receives application for certification from many fabricators of reinforcement.

■ There is a noticeable, growing interest for import, especially of concrete elements. The Kontrollrådet receives many inquiries about which are the requirements related to import of concrete elements.

■ Work is being initiated in order to establish an arrangement for certification of asphalt factories, based on the new European standards.
The first contacts with Asfaltteknisk Institutt (Asphalt-Technical Institute), with regard to a co-operation are being established.

■ Kontrollrådet is in December moving from Forskningsveien 3B at Byggforsk to its own premises at Rådhusgaten 4.

■ Kontrollrådet receives the first inquiries from Asia, and makes its first audits and certifications in China and in South-Korea.

2006

■ An agreement of co-operation with Asfaltteknisk Institutt, for certification of asphalt factories is being written. The first applications for certification are being received, and the first revision is being carried out towards the end of the year.

■ Serious import of concrete elements from abroad is starting. Kontrollrådet becomes involved in certification of producers in Germany, Poland, Czechia and Latvia, in order to secure that Norwegian requirements are being observed. In Latvia Kontrollrådet is entering into an agreement of co-operation with the Latvian notified body, BBANC.

■ Kontrollrådet carries out a users' inquiry regarding customer satisfaction. The results from the inquiry are very nice and positive.

2007

■ A great increase in the number of applications from the asphalt producers, as well as from producers of aggregates for asphalt is being experienced. The first certificates for CE-marking are being issued, and the number of asphalt producers entering into the arrangement is approaching 85.

■ The number of associated producers within the scope of aggregates has passed 230, which makes the scope of aggregates the largest arrangement within Kontrollrådet, as far as the number of associated companies is concerned.

■ Kontrollrådet approves and starts the introduction of a larger, electronic customer- and casework-system, in order to simplify and rationalize the flow of documents internally, as well as opening up for a more rational, electronic exchange of documents with its customers on a long-term.

■ Kontrollrådet is continuously receiving inquiries from within the area of reinforcement, regarding certification of producers of reinforcement steel, both from Asia and the previous Eastern Europe.

■ Kontrollrådet is passing more than 600 companies domestically and abroad, associated with different certification arrangements. Up towards 900 audits are annually been made among the various companies.

Control is decisive for good quality

Per Helge Pedersen is the editor of Byggeindustrien. He has during the later years written several books about the history of the building industry, building contractors and concrete.

Kontrollrådet is at present working on building materials, as totally essential, for the building of a modern world. It is also important to note the fact, that greater parts of the world – over the years – have become Kontrollrådets fields of activity.

Through the building of large port facilities, bridges, power plants and, not the least, the monumental concrete colossus involved in the oil activities, Norway has become a great power within the use of concrete. We do therefore possess a lot of technical knowledge, which through Kontrollrådet may be offered to customers in many countries.

In this country we have for more than 100 years been working purposefully, in order to make the products and constructions better. It has all the time been attached great importance to the development of new standards, and of quality control. Our engineers and other professionals have together created many building constructions, which today are getting recognition from all over. After having seen which dimensions and which lines there are on a Troll-platform, or when one is standing under one of the colossal concrete dams "taming" the water before it is being led through the power plants to be converted into electric power, well, one does indeed get impressed.

But, one may also get to be devout, when entering one of the many churches made from concrete. The same applies to the bridges hanging in the air over the fjords. Those are buildings and constructions for ceremonies and arts. One may be touched to tears by looking at the pictures of all the projects, which have received the Betongtavlen (The Concrete Plaque). There is no other building material that may be formed the way concrete does. One is able to form an expression and a language, that show that the world is on its way forward.

But, in order to get really good concrete it is also necessary to have real good aggregates, one needs the correct reinforcement and different additives, all depending upon what the concrete is meant for.

More than just grey...

The concrete has gotten a lot of negative references throughout the years. There have been many articles written about concrete damages, concrete illness and East-Block-concrete and much of other, negative publicity. But, the concrete is not the problem, but the way the concrete has been used or misused. In just the same way as the humans have created great achievements in concrete, one has also made something that should rather not have seen the light of day.

Many of the negative articles are due to the fact that the executing link has not put sufficient consideration on the quality. Yes, we have also seen that the planning has been wrong. Such matters may have fatale consequences. Fortunately, we have in our country been spared for the big catastrophes (apart from the case when the Sleipner-platform went down), but from many other countries we have heard that big constructions have collapsed, because of not having used the sufficient reinforcement, or that the volume of cement has been far below par.
Either corrupt contractors have been behind this, or the workers

have stolen the building materials that should have been used. Fortunately, we hear little about such conditions in this country.

Most of what has been built gets an approved grade. Much is also under the designation extremely good. It is because we have been following the applicable procedures and approvals. There has always been an extra reason for choosing ready-mixed concrete or concrete elements from producers, who are being audited and certified by the Kontrollrådet. If one in addition has certified aggregates and reinforcement, one may safely get started.

Concrete is to be found in a great number of products, in constructions that may be used, from the basement to the attic – and on the roof one may of course lay concrete tiles. In the garden there is a number of products to choose from, and when it comes to concrete for constructions it is, together with asphalt, the most central product for everything that has to do with roads, tunnels and bridges, in addition to port facilities, power plants and oil platforms, as mentioned above. Even boats may be made from concrete.

Concrete in pipes and manholes
It is not only above the ground that concrete has its strength. The production of pipes and manholes has been an important business for many producers around the country. A few years ago there was one producer or two in almost every municipality. Concrete manholes and pipes were produced in all variants. The problem was that there were too many variants, and the quality was also varying a lot. The defection from the trade has also been great, and there has been an enormous structural adaptation. Now there are few producers left, but they are the more professional and most of them are today delivering top products. Those, who for a long time have been saying that plastic- and other artificial products should take over the entire market, must disappointedly note that municipal products and concrete are alive and kicking.

Important to see the totality

The fact that Kontrollrådet has changed name from Kontrollrådet for concrete products to Kontrollrådet, shows that one is preoccupied with seeing the totality. One is preoccupied with the fact that the total, finished product shall measure up. There is more than sand, water and cement in concrete constructions. And sand may be a great many things. The one, who thinks it is just a matter of grabbing a shovel of sand and then mix it with water and cement, may be in for a surprise and a questionable kind of concrete. If you then add poor reinforcements and chemicals, well, then one is guaranteed a hopeless result.

But, with knowledge and certified materials in a controlled and approved procedure, one may trust that one is getting a result as expected. The fact that Kontrollrådet now also has taken the lead for a new building material, namely asphalt, is a continued pursuit of the overall thinking.

Voluntary control, or…

Many have been wondering about the fact that there shall be a voluntary control in the building business. It is unfortunately a fact, that not everybody has the will neither the ability to inspect themselves. Now the many building errors have made the politicians react. There is now a demand for more inspection. But it is important that one has control of the way the inspections shall be carried out. Kontrollrådet ought to come in here. The authorities, together with the industry, may make use of an acknowledged institution that during 40 years has built up an unprecedented reputation and fame. We are convinced that the experiences made from Kontrollrådet's activities may form the basis for many areas within the building industry, both domestically and abroad.

The world as a market

What has happened in and around the Kontrollrådet is exciting. The fact, that the Kontrollrådet has now ongoing activities in a number of countries, is impressive. This is an acknowledgement of the fact that the Norwegian environment in this area is in a strong position, also internationally. It shall be exiting to follow the continuation of Kontrollrådet's work. Many believe that one is at the start of what shall become a long lasting journey up for the operation.

It must be a blessing for the entire Norwegian building industry, that this operation has its origin here in this country. If one now puts the organisation that the Kontollrådet has into use, it may also contribute to a lifting of the entire building industry in this country. Long-term there is only good quality – and that applies to all links – which pays off.

By Per Helge Pedersen,
Editor
Byggeindustrien

Larger projects

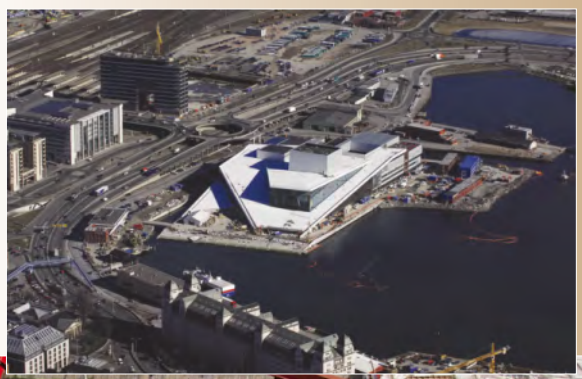
There has, during the later years, been a number large building project in Norway. The Kontrollrådet has been involved in them all with regard to major building products being delivered from producers certified by Kontrollrådet.

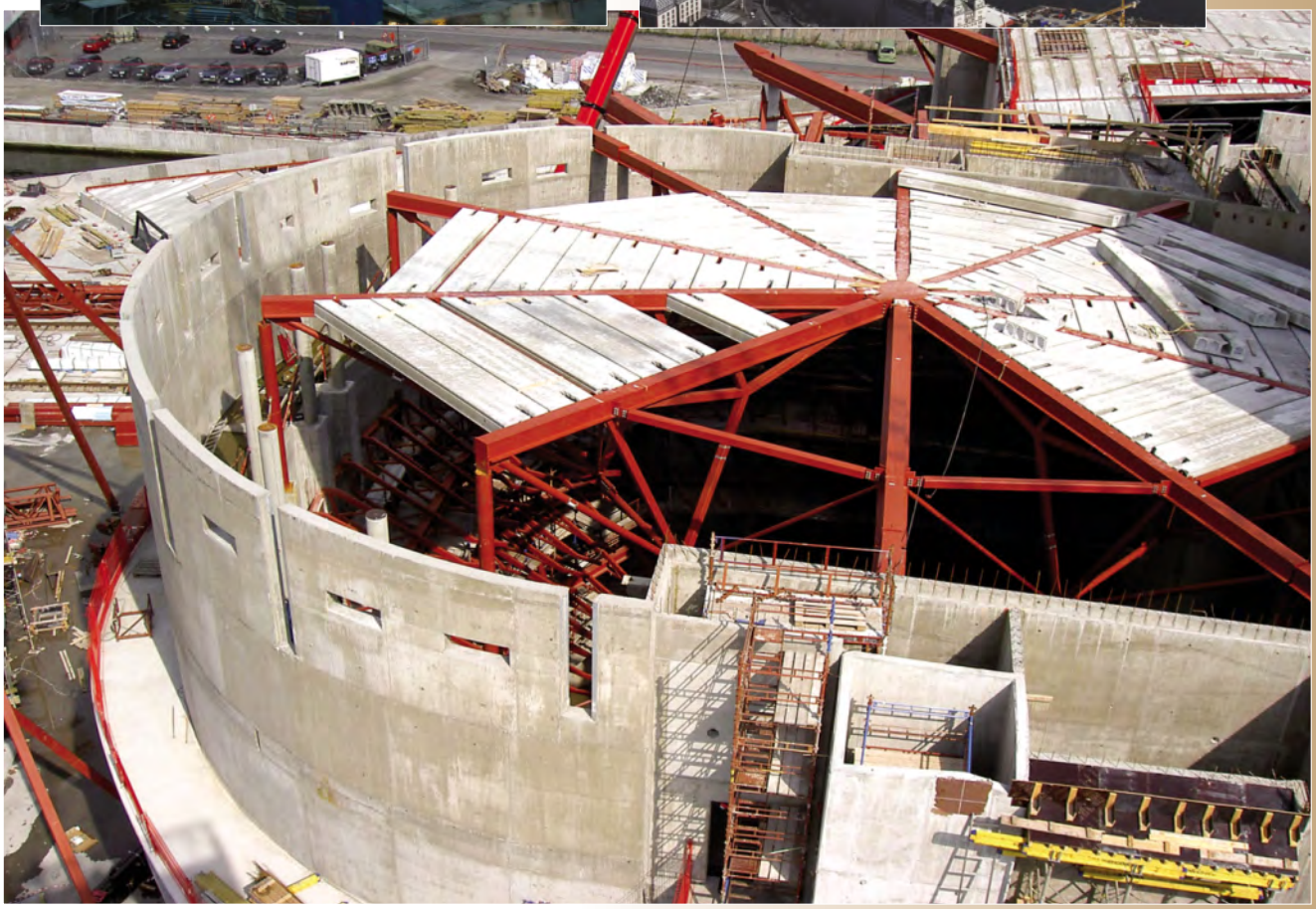
The special tanks of concrete for the Snøhvit-project at Melkøya outside of Hammerfest, have been slid up.
A total of 250.000 m³ of concrete was used. This had become a success.
This is the first large oil-/gas related installation in Northern-Norway.

All images: StatoilHydro

The Opera in Oslo

The new Opera in Oslo will be a magnificent building, which will really put Norway on the world map, when it comes to splendid building constructions. Here you will find concrete, steel, glass and many other building materials in beautiful combinations. One of its closest neighbours is Kontrollrådet, which - of course – has seen to the certification of many of the products used in the building process.





All images: Statsbygg

The under-water tunnel at Bjørvika

The under-water tunnel at Bjørvika in Oslo is a most complex construction, with extreme demands to quality, both to aggregate, to concrete, to steel and to asphalt, as time moves on, which shall be laid at the bottom.

The OPS-project on E18 Grimstad – Kristiansand

The OPS-project E18 Grimstad - Kristiansand is the latest and largest road construction so far of its kind. The project is to be completed during the fall of 2009.

Main image: The Road Administration, Lars Gunnar Nag

The Ormen Lange-development is the biggest industrial development ever to be carried out in Norway, with a price tag of more than NOK 66 billion. The land-based installation at Aukra in Møre og Romsdal county alone cost more than NOK 18 billion. The requirements and demands to quality, for materials and work have been very high.

All images: StatoilHydro

Kontrollrådet wishes to extend a "thank you" to all who have contributed to the publication of this jubilee edition. We also wish to thank all of you, who have sent us information, editorial contributions and photos.

A jubilee report was also made, when Kontrollrådet celebrated its 25th jubilee.

The following companies have contributed to Kontrollrådet's jubilee publication

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Quality through 40 years

The Hadsel-bridge in Vesterålen is 1020 meter long. It was finished in 1978. It is a fantastic and magnificent photo.

The 35,5 m high twin towers at Bjørvika in Oslo has become a new land mark in the capital. Kontrollrådet has also had certification of the ready-mixed concrete being delivered to this project. Photo: Lars Johan Bøe, AF Anlegg.