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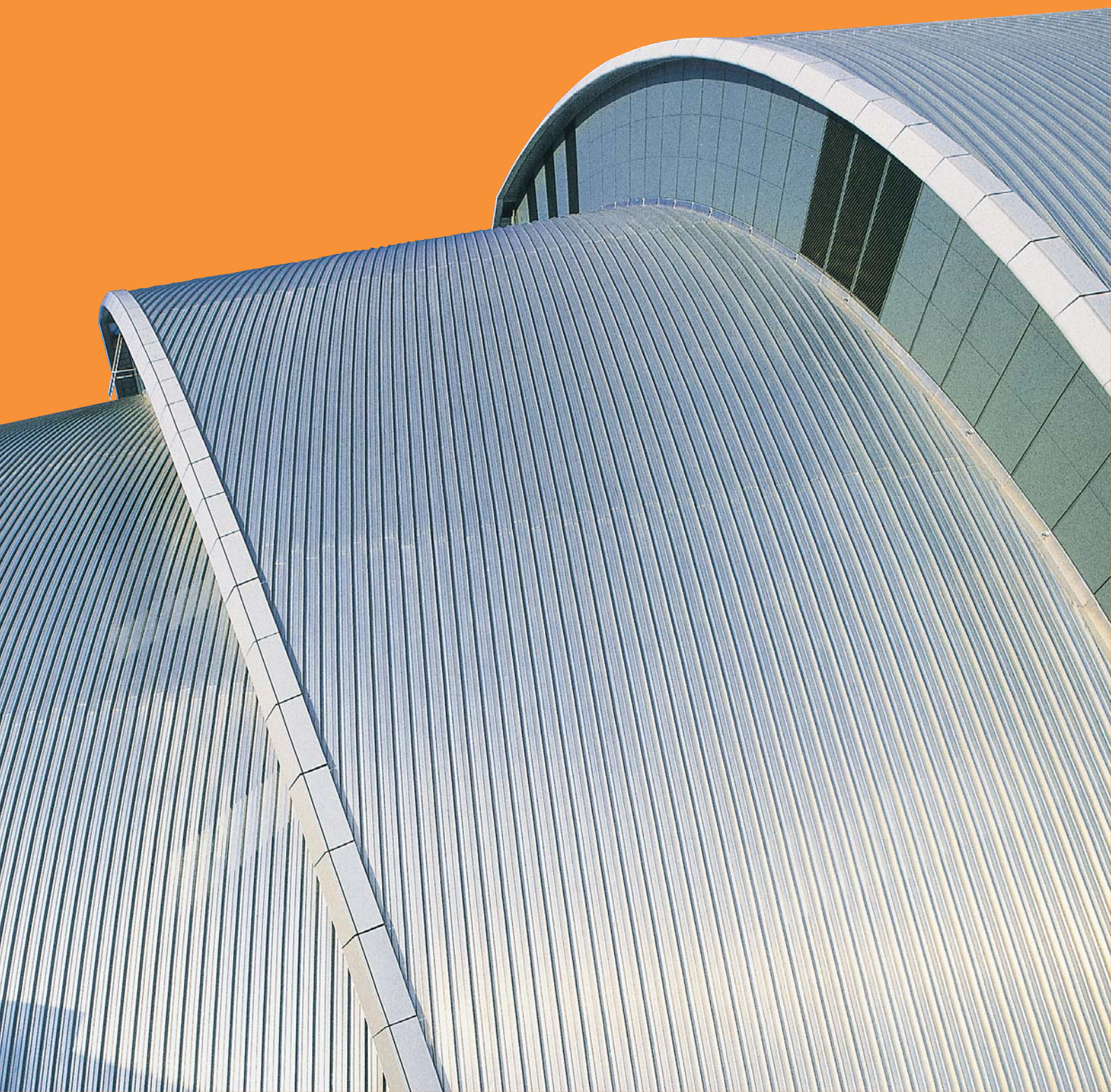
November 2003

Kalzip®

Kalzip® in Scotland



Kalzip® in Scotland

Construction in Scotland is now worth several billion pounds in turnover each year. With the government as its biggest client, the industry already leads the UK in PPP and PFI activity. However, the scope of Scottish construction is not confined to public buildings and there have been many new commercial, leisure and residential projects in the last decade that both demonstrate

innovative design and the outstanding installation capabilities of our approved Teamkal network of contractors.

This guide highlights just some of the construction projects in Scotland that have featured Kalzip, spanning a variety of locations, functions and sizes – from the remoteness of the Isle of Lewis to the immense complex of the Edinburgh New Royal Infirmary to the compact Abercrombie Pumping Station. There are several which figure as part of the redevelopment along the River Clyde in Glasgow, exemplifying the many regeneration schemes that are transforming Scotland.

Kalzip has been a popular choice in Scotland, as elsewhere, because of its durability and resistance to corrosion – its unique clad alloy means that it can withstand the most aggressive environmental elements, such as marine air, pollution and UV rays. It has also been hurricane-tested to prove it can withstand the strongest winds. As the photographs here show, it can be used in a variety of ways to enhance the most creative designs, both large and small, as well as offering a strong, affordable and virtually maintenance-free roofing and cladding system.

Project information – quick reference

Project number	Project	Sector	Straight	Curved	Tapered	Fabs	Fall arrest	Colour coated
1.	Drongan Centre							
2.	One Pacific Quay							
3.	Braehead Shopping and Leisure Centre							
4.	SECC							
5.	Queen Street Station							Slate Grey
6.	No.2 Central Quay							
7.	The Bridge, Argyle Street							AluPlus Zinc
8.	Rolls-Royce Aerospace Factory							
9.	Motherwell Heritage Centre							BS10B17
10.	The Open Museum							
11.	Wolfson Medical School							
12.	Beatson Oncology Centre							
13.	Strathclyde Police Road Policing Complex							
14.	Falkirk Schools PFI							
15.	Council HQ George IV Bridge			Cranked				Copper Green
16.	Dalkeith Schools Community Campus							
17.	New Craighall Fire Station							
18.	Princes Exchange							
19.	Edinburgh New Royal Infirmary PFI							
20.	Abercrombie Pumping Station						Kalbau RAL 9010	
21.	Overgate Shopping Centre							PVF 2
22.	Sensation Dundee			Cranked				White & dark Blue
23.	Charleston Primary School							
24.	Camphill-Rudolph Steiner School							Green
25.	Davidson House							
26.	Blenheim Place							RAL 7000
27.	Inverurie Police Station							
28.	Ardross Community Hall							
29.	Cairngorm Funicular Railway							

Learning Establishment	Public Transport
Government/Local Authority	Commercial
Housing	Utility
Leisure	Health

All key contact details can be found on page 26

1. Drongan Centre

Combining traditional harling for the walls and Kalzip for the roof, the Drongan Centre in Ayrshire is an integral feature in the village of Drongan, housing many of the services for the local community – including medical facilities, East Ayrshire Council offices and Strathclyde Police.

The original brief called for a tiled roof, but architects Wren Rutherford Austin-Smith:Lord convinced the client to use Kalzip with a mill finish after showing them another of their buildings in nearby Prestwick that uses Kalzip. The low maintenance roof combined with the use of aluminium for curtain walling and windows was a major consideration for future maintenance by the client. Although the Drongan site is quite exposed, Kalzip has been proven to withstand harsh conditions including UV exposure and high winds.

The roof's unique design required meticulous detailing. Two different pitches are arranged to provide clerestory windows that let light into the centre of the building and are topped with a cupola and radiating curve at one end. To unite the two pitches, Wren Rutherford Austin-Smith:Lord designed a spiral that wraps around the cupola from the higher level to the lower. Kalzip approved contractor, Kelsey Roofing Industries Ltd, provided shop drawings showing how the pre-formed sheets could be taper cut to fit the spiral, creating an unusual, distinctive feature.

Architect:
Wren Rutherford Austin-Smith:Lord

Approved Teamkal contractor:
Kelsey Roofing Industries Ltd

2. One Pacific Quay, Glasgow

Just across the Clyde from the well-known 'Armadillo' is an office block with an equally impressive design. One Pacific Quay was the first building to be completed in the ambitious redevelopment of the site of the 1988 Glasgow Garden Festival. Comprising 30,000 square feet of prestigious office space over three-stories, this impressive building is crowned by a Kalzip roof with extending eaves that jut out in an aerofoil shape above the glazed walls, giving One Pacific Quay a strong presence on the riverfront.

Architect:
The Parr Partnership

Approved Teamkal contractor:
Grainger Building Services Ltd

3. Braehead Shopping and Leisure Centre, Glasgow

Braehead Shopping and Leisure Centre was built as part of a privately funded waterside regeneration project.

More than 45,000 square metres of Kalzip 400 stucco embossed sheets and Kalzip structural decking were provided along with Kalzip raised walkways for effective access to the roof area and Kalzip fall arrest system.

Aluminium roofing was specified for its benefits of low maintenance and durability and Kalzip because of it's overall performance record in the UK and overseas.

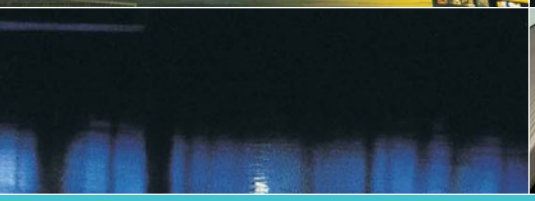
Architect:
Building Design Partnership

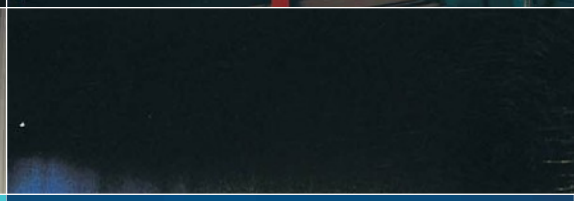
Regeneration

4. Scottish Exhibition and Conference Centre, Glasgow

Completed in 1997, this impressive landmark building on the River Clyde was, and still is, a key project in the regeneration of the riverside area. Designed by Foster and Partners, the Scottish Exhibition and Conference Centre is nicknamed ‘the Armadillo’ because of its shape and the fan arrangement of Kalzip aluminium clad ‘shells’. The building provides 13,000 square metres of floor space and can accommodate more than 3,000 people, with adjoining break-out rooms and catering facilities. At 40 metres high and over 140 metres long, the structure is clad in 10,600 square metres of 305mm stucco embossed Kalzip.

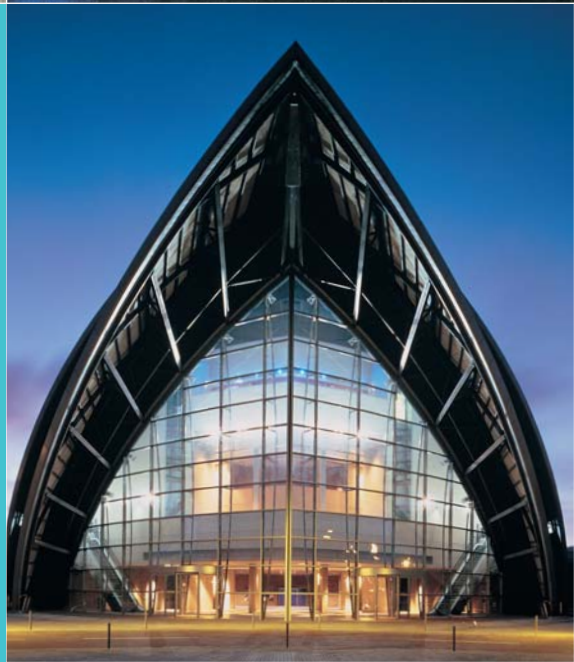
Supported on a structural steel framework, the built-up system includes steel trapezoidal sheets, a vapour control barrier and rockwool insulation. Providing the distinctive metallic outer shell of the building is Kalzip supplied in lengths of up to 14 metres, installed with a fixed point at the ridge to allow expansion downwards and a natural curve to a 38 metre radius. Each elevation consists of a maximum of four Kalzip sheets, joined together by welding the endlaps together on site.



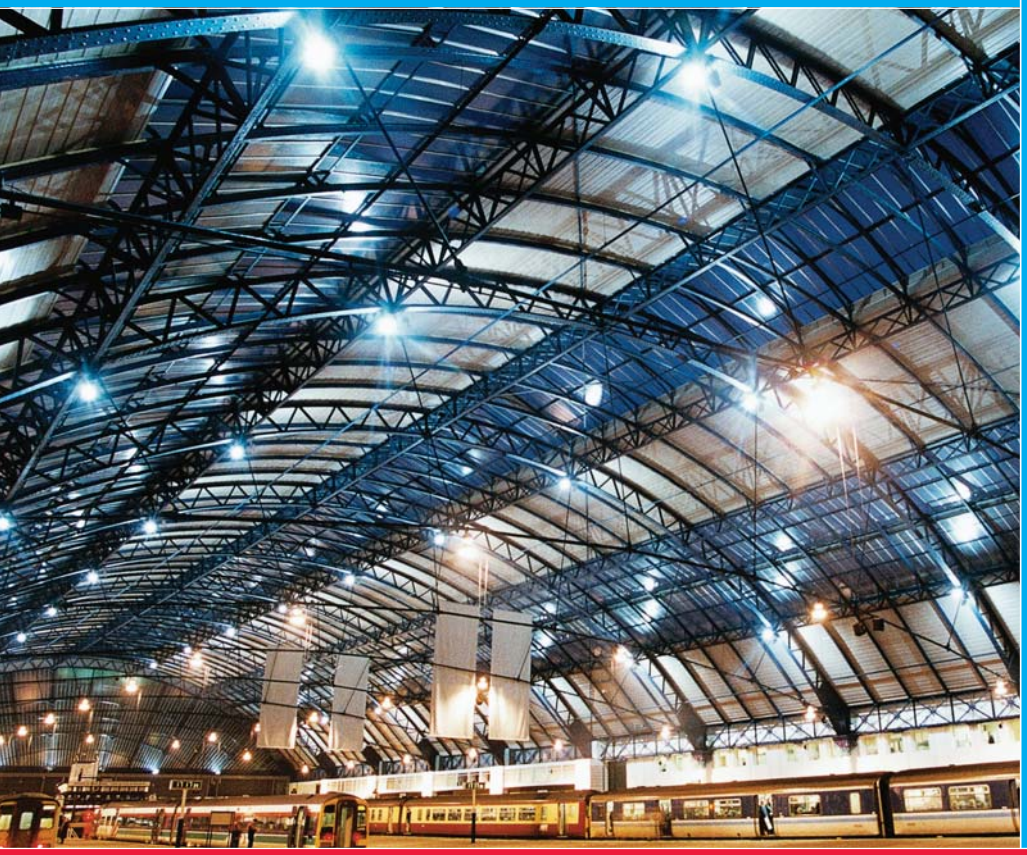


The building's distinctive profile comprises a sequence of 8 stepped cylindrical roof shells linked by a series of panelled, louvred and glazed slots.

Architect:
Foster and Partners



5. Queen Street Station, Glasgow



The challenge: to put a new roof on an immensely busy train station – without disrupting services. That was the task faced by Teamkal approved contractors Grainger Building Services Ltd when they installed more than 8,000 square metres of Kalzip on Queen Street Station, Glasgow.

The solution was to suspend a crash deck underneath the roof – keeping the platforms clear of both scaffolding and rain – and complete one section at a time.

As a listed building it was paramount that the refurbishment programme replicated, as near as possible, the primary design and appearance of the station. Kalzip was specified in a slate grey finish and alternated with glazing to recreate the same proportions as the original iron and glass roof, which was added to the existing station in 1878.

Approved Teamkal contractor:
Grainger Building Services Ltd

6. No. 2 Central Quay, Glasgow

A prestigious commercial building on Glasgow's waterfront, Central Quay imparts a sleek and stylish exterior visible from both the M8 and the River Clyde. Accommodating organisations with interests as diverse as media, medical education and technology, the business park signifies a new trend of locating within the central urban areas rather than on the periphery of the city.

The brief was to create a contemporary building with integrated windows and a low-maintenance façade and roof. Fitting the bill perfectly, Kalzip was specified not only for its ability to accommodate these requirements but also because of its ease of installation and long lifespan. The roof plan includes part open and partly enclosed plant areas in stepped elevations – the crisp lines and straight geometry of the Kalzip sheets complement both the wide glazed areas of the stairwells and the main reception atrium.

Architect:
Carey Jones Architects

Approved Teamkal contractor:
Lakesmere Ltd

7. The Bridge, Argyle Street, Glasgow

The Bridge at Argyle Street – a mixed use development in Glasgow - is the first UK project to feature the distinctive Kalzip AluPlusZinc material. The first, in a series, of housing regeneration programmes in the area, the building comprises 2 levels of retail outlets, business units and a restaurant with over 150 residential flats of varying sizes on the upper floors.

In contrast to the main part of the building, which is dressed in terracotta and brick, the metal frame colonnade of the commercial level is echoed through the top 3 storeys of the development. Covered with 2,800 square metres of Kalzip AF (all flat) 333 profile in AluPlusZinc, the roof curves elegantly through a 4.15m radius before extending vertically down the top three floors of the building.

Although the architect originally specified zinc, Kalzip AluPlusZinc offered a more cost effective, practical alternative combining the aesthetic appeal of zinc with the intrinsic benefits of aluminium including, outstanding durability, full recyclability and virtually maintenance free.

The unique, patented PEGAL process used to fuse the metals together creates a lightweight, extremely strong, anti-corrosive material. This along with the elegant flat profile and traditional appearance makes Kalzip AluPlusZinc ideal for the renovation of older more historic buildings and perfect for modern, innovative designs like The Bridge.

Architect:
Carrick McCormack McIntyre

Approved Teamkal contractor:
Grainger Building Services Ltd

Image Courtesy of:
Carrick McCormack McIntyre

8. Rolls-Royce Aerospace Component Factory, Glasgow

Replacing Rolls-Royce's 1940s factory at Hillington is the state-of-the-art 50,000 square metre factory near Glasgow, which will produce components for gas turbine jet engines. In addition to providing more than 43,000 square metres of Kalzip 400 profile for the manufacturing areas of the facility, another 3,500 square metres cover the offices within the same building. Having specified Kalzip on other large-scale projects, the architects were aware of its capabilities and performance characteristics and were confident that it was the perfect choice for this project.

Benefiting from Kalzip's ability to produce long sheets on-site, and with lengths approaching almost 100 metres, it was vital that the sheets had the capacity for thermal movement. Unique to Kalzip is the technical support that provided the calculations for each plan to establish the fixed point and the frequency of fasteners and clips for each length and curve to guarantee the security and integrity of the roof.

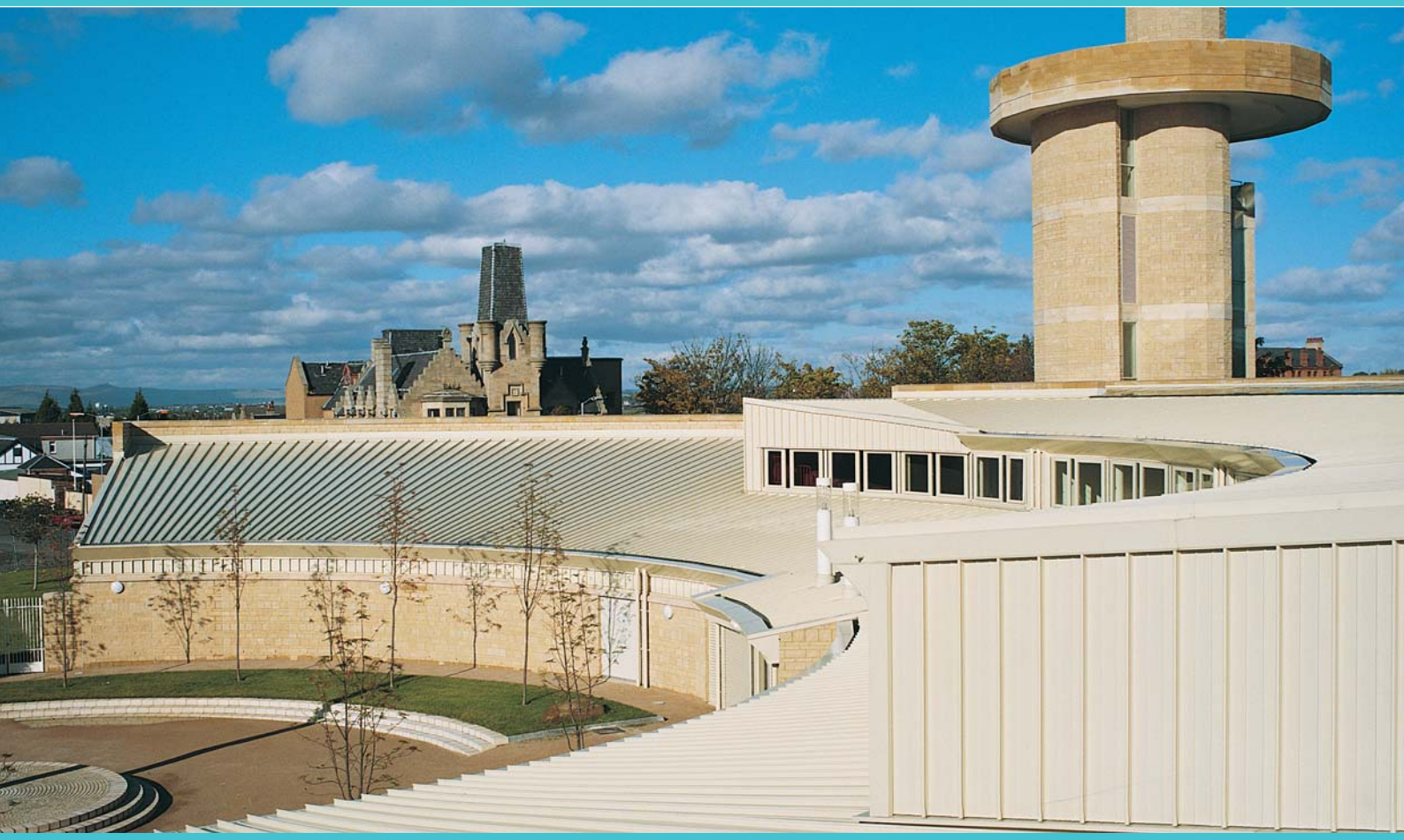
Since the plant is in the flight path of Glasgow Airport, one of the concerns at the design stage was whether the aluminium sheets should be painted to avoid any glare or interference with the radar. To allay these worries Kalzip sheets were submitted – in natural stucco-embossed finish – for independent testing, which proved that the light levels were well within the acceptable limits. In fact, Kalzip has been used on many airport buildings, both in the UK and around the world including Terminal 5 at Heathrow, Barajas Airport, Madrid and Guangzhou Airport in China.

Main contractor:
AMEC

Architect:
Bradford Robertson Architects

Approved Teamkal contractor:
Hathaway Roofing Ltd

9. Motherwell Heritage Centre, Glasgow



Created to preserve and promote the history of the local community, the Motherwell Heritage Centre houses historical displays as well as a local studies library, exhibition gallery and conference facilities. Acting almost as a sentinel, a tower rises above the building offering views from its internal gallery and attracting attention to the centre, especially at night when it is lit up and can be seen for miles.

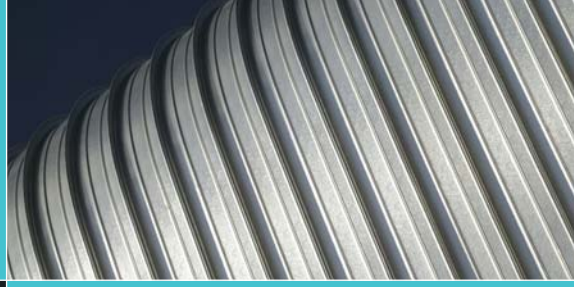
Forming a half circle around a central, round plaza, the building is an excellent example of the use of colour coated Kalzip. The main fabric of the building is natural sandstone so 1,350 square metres of Kalzip in 1.00mm gauge were specified in 'Portland Stone' to match – as were the aluminium flashings, soffits, soakers and gutters – creating a harmonious and welcoming effect for the many visitors to the centre.

Architects Andrew Merrylees Grierson + Robertson (now Hypostyle Architects) designed the building and Alan Robertson, project architect, says it was 'the first time we used Kalzip, but we specified it because it was ideal in fitting the curve of the building'. Kalzip approved contractor Grainger Building Services Ltd calculated the exact sizes and tapers of each Kalzip sheet, which ranged from 30mm up to as much as 260mm. Alan Robertson has since specified Kalzip on other projects such as the Dundee Science Centre, which can also be seen in this brochure.

Architect:
Andrew Merrylees Grierson + Robertson (now Hypostyle Architects)

Approved Teamkal contractor:
Grainger Building Services Ltd

10. The Open Museum, Glasgow



5,000 square metres of Kalzip standing seam system, capable of achieving a 1.5 metre radius, provided a unique solution to a challenging design for the Open Museum at South Nitshill. Created by Glasgow City Council the museum was built to store up to 200,000 historical artefacts and works of art, some of which are priceless, whilst the 100 year old Kelvingrove Art Gallery and Museum is being refurbished.

The original design concept by Glasgow City Council's Civic Design Architects was developed as part of a Design and Build project by CRGP Architects and Surveyors who worked on CBC's Design Team. The principle, challenging feature of the design is the extremely tight curve at the eaves. As well as offering a secure and controlled environment for the museum, Kalzip was the only material that could achieve the complex 1.5 metre radius without distortion and, critically, without crimping – an option which was not acceptable to the client.

With the protection of the artefacts paramount, it was essential that the specified material was low maintenance and durable with exceptional thermal performance and airtightness – any ingress of water or external air could ruin the relics inside.

The system was installed by Kalzip approved contractor Grainger Building Services Ltd as a continuous external envelope with minimum joints and junctions, offering the highest security for the museum. A unique ridge system, using sliding clips, was also custom-developed to accommodate thermal movement of the sheets with the tight eaves curve as a fixed point. Kalzip fabrications were used on the perimeter detailing to provide a consistent and aesthetic finish.

Architect:
CRGP Ltd

Approved Teamkal contractor:
Grainger Building Services Ltd

11. Wolfson Medical School University of Glasgow

With close attention paid to the use of materials and lighting, the award-winning Wolfson Medical School was designed by Reiach and Hall Architects and is topped with 1,600 square metres of Kalzip 400 in a stucco embossed finish. Winning Best Public Project in the Scottish Design Awards, the building was also a winner in the RIBA Awards for 2003.

Behind the dramatic semi-circular façade of glass, steel and wood, the building is angular, featuring an arrangement of two L-shapes enclosing a triangular central atrium. Specifying Kalzip for its compatibility with the overall design, its cost effectiveness and its speed of installation, the architect realised he could reduce any construction problems associated with inclement weather. Laid to a 10° monopitch, the neat lines of the Kalzip roof complement the simple planes and straight geometry that define the structure of the building.

Architect:
Reiach and Hall Architects

Approved Teamkal contractor:
Kelsey Roofing Industries Ltd

12. Beatson Oncology Centre, Outpatients Unit, Glasgow

A wide glass canopy radiates out from the circular entrance area of the Beatson Oncology Centre at Gartnavel General Hospital, Scotland's largest cancer centre. A key consideration in the material specification for the building was a lifespan requirement in excess of 40 years. Kalzip's robustness and longevity made it the obvious choice for the roof with over 2,900 square metres of Kalzip installed in a stucco embossed finish with curved verge flashings to match. Allowing natural light and ventilation into the internal patient areas, the dual pitch roof is open at the ridge where it is fitted with louvres and 'peeled back' to create skylights. Kalzip fall-arrest system was also installed.

Architect:
Wylie Shanks Architects

13. Strathclyde Police Road Policing Complex, Glasgow

Sustainable design and energy efficiency were key decision criteria for the main building of the Strathclyde Police, Road Policing Complex in Glasgow. The consequent implications for the Kalzip roof specification were that recycled aluminium was used for the Kalzip outer sheet. Architect Gordon Smith of McEwan Smith (now Smith Findlay) specified Kalzip not only because of its recyclability, but also because of its durability and system guarantee.

The layout of the three-storey office building makes the most of daylight and ventilation by having an entire elevation covered in full length glazing and a central atrium, thereby reducing the level of expenditure needed on artificial lighting and air circulation. To help maintain comfortable internal temperatures and further increase the thermal performance of the roof, the depth of mineral wool insulation within the Kalzip system was increased from 120mm to 200mm. Adding to the 'green credentials' of this energy-efficient complex is the fact that the Kalzip products can be recycled again and again with absolutely no loss in quality to the aluminium.

Architect:
McEwan Smith (now Smith Findlay)

Approved Teamkal contractor:
Lakesmere Ltd

14. Falkirk Schools PFI

Since securing orders from the Glasgow Schools Building Programme Kalzip aluminium standing seam roof has been installed on more than 20 schools in central Scotland as part of the PPP and PFI programme. Based on a highly durable alloy material, the system was favoured partly because of its outstanding long term, low maintenance performance which is critical to the PPP/PFI schemes.

Under the scheme five schools were designed for the Falkirk PFI by The Parr Partnership including three new secondary schools – Bo'ness Academy, Braes High School and Graeme High School; a major extension to an existing school (Larbert High School) and a new special needs school (Carrongrange School). Kalzip aluminium standing seam roof was installed on the pitched roofs of each building.

The schools had to be constructed concurrently by four different main contractors across a tight 18 month project programme. The Parr Partnership achieved this by adopting a disciplined architectural approach. The design of each school is based on the use of common building components with the application of standard dimensions wherever possible and a common palette of materials was selected on the basis of function, longevity, ease of maintenance, cost effectiveness and aesthetics. However, each of the contexts required an individual response to ensure that each building is identifiably unique.

Following its success in Scotland, Kalzip has been selected for many PFI schemes in England and Wales in both the education and health service sectors.

Architect:
The Parr Partnership

Client:
Ballast Special Projects

Approved Teamkal contractors:
Grainger Building Services Ltd, Kelsey Roofing Industries Ltd, Lakesmere Ltd

15. Council HQ, George IV Bridge, Edinburgh

Originally housing the City of Edinburgh Council and then called in to serve as the interim Scottish Parliament building, the Headquarters at the corner of George IV Bridge and Victoria Street in Edinburgh has had to fulfil a variety of functions. With planning restrictions in place, due to the historic nature of the location, 1,200 square metres of Kalzip were specified in a copper colour to complement the green-patented roof of the adjacent building.

Adding another more traditional touch, the Mansard roof design required the Kalzip sheets to be supplied crank curved. To ensure the integrity of the system was not compromised in any way the vertical and horizontal seams were zipped in two operations with the 'crank' itself being hand-seamed. The tapered joints at the corners of the roof were then formed by cutting and welding.

Approved Teamkal contractor:
Grainger Building Services Ltd

Geographic location of sites in Scotland

Glasgow

13. Strathclyde Police Complex
12. Beatson Oncology Centre
11. Wolfson Medical School
10. The Open Museum
9. Motherwell Heritage Centre
8. Rolls-Royce Aerospace Factory
7. The Bridge, Argyle Street
6. No. 2 Central Quay
5. Queen Street Station
4. SECC
3. Braehead Shopping Centre
2. One Pacific Quay

Drongan

1. Drongan Centre

Cairngorm

29. Cairngorm Funicular Railway

Ardross

28. Ardross Community Hall

Aberdeen

27. Inverurie Police Station

26. Blenheim Place

25. Davidson House

24. Camphill-Rudolph Steiner School

Dundee

23. Charleston Primary School

22. Sensation Dundee

21. Overgate Shopping Centre

Abercrombie

20. Abercrombie Pumping Station

Edinburgh

19. Edinburgh New Royal Infirmary

18. Princes Exchange

17. New Craighall Fire Station

16. Dalkeith Schools Campus

15. Council HQ George IV bridge

Falkirk

14. Falkirk Schools PFI

16. Dalkeith Schools Community Campus, Edinburgh

More than 18,000 square metres of Kalzip were specified for this extensive campus accommodating Dalkeith High School, St. David's Roman Catholic High School and Saltersgate Special School. The PFI development was built by main contractor HBG Construction Scotland Ltd and will be managed by HBG Facilities Management for 30 years.

With a striking curved shape, the central communal building is almost 130 metres across and is covered with some of the longest Kalzip sheets ever supplied. To facilitate the installation process the Kalzip mobile roll-former was erected on scaffolding at eaves level so the sheets could be carried into place, fixed and zipped as soon as they were produced.

Architects:
Keppie Design Ltd

Main contractor:
HBG Construction

Approved Teamkal contractor:
Lakesmere Ltd

17. New Craighall Fire Station, Edinburgh

The striking contrast of the Kalzip aluminium roof against the 'fire engine red' of the window frames and structural details gives New Craighall Fire Station in East Edinburgh a distinctive yet eye catching appearance.

Looking like a flying saucer on its widest side, the one-storey building is fan-shaped to allow access from a short central corridor to all the fire station's facilities. The complex design of the building involved a 3 tiered roof with the lower 2 tiers separated by glazing and a small step built into the upper tier to adapt the taper to the tighter diameter.

To accommodate the geometries of the roof Briggs Roofing and Cladding Ltd installed 500 square metres of tapered Kalzip sheets and a further 250 square metres of straight sheets in a stucco embossed finish.

Architect:
Glasgow City Council
Property Services Department

Approved Teamkal contractor:
Briggs Roofing and Cladding Ltd

18. Princes Exchange, Edinburgh

After being vacant for 25 years, this site in the heart of Edinburgh's financial district is now home to an award winning office and housing development. Accredited Commercial Development of the Year in the 2001 Scottish Property Awards, the Princes Exchange at Tollcross was designed by PJMP Architects for Teesland Group. Kalzip tops the structure, stretching over the penthouse executive areas and concealing plant decks with sculpted roof forms. The design of the building emphasises energy efficiency and has been rated 'excellent' by the BRE Environmental Assessment Method.

Architect:
PJMP Architects

Approved Teamkal contractor:
Kelsey Roofing Industries Ltd

19. Edinburgh New Royal Infirmary PFI

Minimal maintenance requirements and extensive lifespan were major factors in the specification of 46,000 square metres of Kalzip for the Edinburgh New Royal Infirmary, designed and built by Edinburgh Royal Joint Venture – between Balfour Beatty Construction Limited, Haden Young Limited and Morrison Construction Limited.

With the hospital located relatively close to the sea, the risk of corrosion from salt air became a consideration in the material specification. Kalzip, with its unique aluminium clad alloy which has been extensively tested and proven to be highly durable and resistant to corrosion, was installed at a shallow pitch to comply with planning requirements for a low level development.

Architect:
Keppie Design Ltd

20. Abercrombie Pumping Station

Making a creative feature on a utilitarian building, Kalbau profiled building sheets in RAL 9010 are used to enhance blue architectural details on this rather quaint water pumping station. Although near the sea, Kalzip is manufactured from the highest quality aluminium alloy, which is non-corrosive, and can withstand prolonged exposure to wind-driven salt and sand even in the most extreme environments. The structure is topped with a mill finish Kalzip roof.

21. Overgate Shopping Centre, Dundee

The stunning Overgate Shopping Centre is Scotland's fourth most popular shopping destination. Fronted with a sweeping wall of glass and a graceful curve, the Centre is a hub of activity and walkways giving access to other shopping areas in the city centre. With over 400,000 square feet to cover, comprising top brand fashion outlets, speciality shops and eating establishments, you can literally 'shop 'til you drop'.

The exterior features a colonnade with rounded balconies that jut out from the upper floor above the entrances, overlooking the City's historic churchyard. 3,100 square metres of machine tapered Kalzip complete the design on this stunning piece of work. To enhance the aesthetic appeal of the building the turret features on the roof were clad with a single skin vertical Kalzip application.

Architect:
Keppie Design Ltd in association with Benoy Architects

Approved Teamkal contractor:
Coverite Ltd

22. Sensation Dundee

A white triangular ‘light box’ and a contrasting deep blue ‘dark box’ work together to create a sensational science centre in Dundee. Using innovative, interactive exhibits to show that science can be fun, Sensation Dundee was built with the help of generous sponsorships and grants, including a Lottery grant from the Millennium Commission.

The white side of the building represents a prism and features white colour-coated Kalzip alternating with glazing in accordance with the harmonic progression known as the ‘Fibonacci scale’ (refer to images). In fact, the same principle – 1, 1, 2, 3, 5, 8, 13, 21… was used throughout the interior of the building and the centre’s café is called Fibonacci’s!

Alan Robertson of Merrylees + Robertson (now Hypostyle Architects) said, ‘We’d used Kalzip before at Motherwell Heritage Centre (also in this brochure) and I was impressed by that fact that, as there are no external fixings, there is no leaking. It’s a complete system, so we specified everything from Kalzip, including a fall arrest system’.

Architect:
Merrylees + Robertson
(now Hypostyle Architects)

23. Charleston Primary School, Aberdeen

Almost 2,000 square metres of Kalzip standing seam were installed on this appealing primary school in Aberdeen, which features some of the most unusual and colourful playground furniture in the UK. A comprehensive Kalzip system was installed comprising smooth curved Kalzip structural decking and Kalzip 400 profile sheets in a stucco embossed finish, supplied to site in lengths of up to 22 metres.

The impressive smooth curved roof of the games hall cascades downwards to connect with one of the three single storey classroom wings below. Projecting out, pinwheel fashion, from this first wing are 2 classrooms topped with monopitch roofs of differing heights that are linked by rows of glazing to allow natural daylight to stream into the central corridors of the buildings.

The school is due to be extended with the addition of 2 new classrooms that will be roofed with Kalzip aluminium standing seam in a stucco embossed finish to complement the existing buildings.

Architect and client:
Aberdeen City Council

24. Camphill-Rudolf Steiner School, Aberdeen

As part of a network of communities for people with special needs, the Camphill-Rudolf Steiner School in Bieldside is geared towards children up to the age of 18. Serving as both a school and therapy centre, the east side of the building houses classrooms for small groups of students whilst the west side has facilities for various types of therapy to meet the specific needs of the pupils.

To complement existing buildings on the site, the architect specified Kalzip 305 profile in a green powder coated finish. The interesting use of dormer shapes and angles incorporated a row of glazing at the ridge area and the use of Kalzip sheets in a vertical application.

Architect:
Camphill Architects

25. Davidson House, Science and Technology Park, Aberdeen

Completed in two stages, Davidson House is one of the most striking buildings on the Aberdeen Science and Technology Park. Nicknamed 'The Spider' because of its projecting 'legs', Davidson House is officially named after the scientist William Davidson who studied at Aberdeen University. This unusually shaped building was constructed to house a number of Aberdeen's hi-tech companies and is covered in 2,500 square metres of stucco embossed Kalzip 400, specified for its durability and flexibility.

Phase one involved construction of the reception 'rotunda' and two three storey blocks ('legs'), with a further two 'legs' added at phase two.

The Kalzip system comfortably satisfied the complexities of the roof, with tapered sheeting on the conical roof of the circular hall and curved sheeting – to several radii – to cover the legs, creating a cohesive and attractive appearance that will provide the benefits of high performance and low maintenance.

Architect: Mackie, Ramsay & Taylor

26. Blenheim Place, Aberdeen

A series of curves make up the roof of this office block in Aberdeen town centre. A redevelopment project on a derelict site in a prime location, Blenheim Place offers 14,000 square feet of office space and is roofed with 680 square metres of Kalzip aluminium standing seam in a squirrel grey finish. Comprising a vestibule topped with factory curved sheets to a 4.8 metre radius and a series of more gentle natural curves, the three-storey building features a modified, asymmetric T-section with two roof curves meeting on the same elevation. Of paramount importance to the performance of the system was the level of support received from the Kalzip technical department in helping to bring a design with complex junctions to a trouble-free conclusion.

Architect:
Canale Associates

Approved Teamkal contractor:
Fowler McKenzie Ltd

27. Inverurie Police Station, Aberdeen

The police station at Inverurie has a graceful style enhanced by four separate curved Kalzip roofs. The three storey central main building anchors the entire complex, with single storey wings projecting on three sides – housing garages and the main cell block, which runs perpendicular to the central building. Kalzip gave the architects the flexibility to achieve the effect they wanted for the narrow structure, adding height and variety through a series of curves of different radii.

Architect:
Aberdeenshire Council

28. Ardross Community Hall

Architect David Somerville wanted to use natural materials for the new community hall in the village of Ardross in Ross-shire. With 2 roofs of varying heights, covering both the main hall area and the entrance way, the architect needed a material that would work in harmony with the cedar cladding chosen for the walls. A material durable enough to withstand the possible effects of the runoff rainwater from the cedar whilst being economical and recyclable made Kalzip aluminium standing seam the perfect choice.

The sheets are of varying lengths with a natural curve covering the ridge. At the back of the building, the roof extends longer over a single storey section of the hall with sheets cut to follow the curve of the semi-circular café at the centre. Located in the Northern Highlands of Scotland and exposed to the most extreme weather conditions, a series of snowguards were incorporated into the roof design to accommodate any heavy snowfall.

Praised by the Scottish Chamber Orchestra for its acoustics, this community hall hosts music, theatre and dance performances from travelling companies, as well as providing sports facilities and a café for local people. With 90% of the budget for the building provided by grants, Ardross can now boast a truly outstanding venue and meeting place.

Architect:
David Somerville

29. Cairngorm Funicular Railway

Aesthetically pleasing and outstanding performance capabilities were both key attributes required for the two stations of the Cairngorm Funicular Railway at Aviemore. After a series of technical meetings between Kalzip, structural consultants and architects Unwin Jones Partnership, Kalzip 400 was specified in a stucco embossed finish to meet the rigorous performance requirements of the remote location, without compromising the outstanding natural beauty of the area. Able to withstand winds in excess of 140 mph and winter temperatures below freezing, Kalzip proved it could weather all conditions when a test sample was left out on the mountainside for several months. Besides being highly durable, Kalzip is virtually maintenance free – an important requirement considering the higher station of the railway is 1190 metres above sea level!

Architects:
Unwin Jones Partnership

Client:
Highland & Island Enterprise

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Grainger Building Services Ltd
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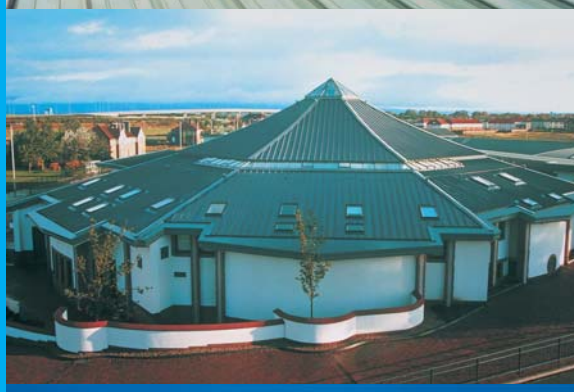

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