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Brick sculpture built to the passive building standard

IBA – 'Quarter of Nations' intercultural housing project completed in Hamburg-Wilhelmsburg

Short text (861 characters)

The 'Quarter of Nations' in Hamburg's Wilhelmsburg district was created in connection with the IBA 2013 – a model intercultural housing project intended to house more than 1,700 inhabitants originating from 30 different nations. Gerber Architekten extended a traditional workers' housing development with two new buildings that respond to the most fundamental elements of the existing architecture and reinterpret them by incorporating sculptural head-end volumes, whilst simultaneously reconciling them with the high energy efficiency requirements of a passive building. There are a total of 75 publicly-funded housing units, of different sizes and offering different forms of accommodation; they combine accommodation types suitable for single persons, couples and families, thereby ensuring an appropriately-mixed social profile for the 'Quarter of Nations'.

(861 characters)

Urban planning concept (6.461 characters)

The district that is the location of the development, the Wilhelmsburg district, is situated within the city of Hamburg between two arms of the *Elbe* – the *Norderelbe* and the *Süderelbe-Köhlbrand* branch. The neighbourhood, which is in the south part of the *Reihersteig* quarter, is characterized by a traditional workers' housing development consisting of red brick buildings dating from the 1930s: a three-storey terrace construction with red saddle roofs, which has also been modernised in connection with the IBA. The exceptionally high quality of the existing urban structure resulted in the basic elements of the existing architecture being retained; these were refined and reinterpreted by Gerber Architekten to produce the sculptural head-end structures. The use of a type of brick that harmonises with the existing infrastructure is particularly effective in emphasising and reinforcing the unity of the wider district. The so-called gate buildings represent the northern point of entry to the 'Quarter of Nations', providing a logical conclusion to the block periphery. The alignments of the new building structures incorporate those of the existing development. The slightly recessed positioning of the U-building allowed a plaza location to be created on the *Neuhöfer Strasse*. Taken together with the projecting elements of the buildings, this plaza defines the starting point of the district in urban planning terms. The four-storey U-building, with its asymmetrical saddle roof, and the new T-building structure, which is six storeys high in its forward section and four storeys high in its rearward section, respond to the *Veringstrasse* buildings and the neighbouring *Energiebunker*. From an urban planning perspective, the forward elevations of the two head-end structures provide an orientation point for the wider area, and also serve to signal the point at which the 'Quarter of Nations' begins.

The green strip running between the *Weimarer Strasse* and the *Veringstrasse* is a central element of the 'Quarter of Nations' area. This internal green zone, which resembles a park, is one of the greatest potential assets of the overall plan. Terminating at the U-building, this green strip offers a sense of expansiveness and continuity. The use of the head-end elements to terminate the block periphery structures lends greater intimacy to the inner courtyard, thereby enhancing it as a place for users to spend their time in. Fitted in between the *Torhausplatz* plaza to the north and the *Welthandelsplatz* plaza to the south, it is framed as a coherent space, and unites the various functional requirements both within the community spaces and in the semi-public inner open spaces. The trees already in place on the site are integrated into the open space concept. All inhabitants have the opportunity of tending a green space of their own. These garden islands, which are six by six metres in size and are bordered by hedges, are placed around the outdoor complex in an irregular arrangement, and can be taken on without charge. The community spaces are equipped with seating, play apparatus, structures for drying clothes etc. They are also directly connected to the east-west passage. The garden courtyard has a fluid, meandering route running through it in the north-south direction, which widens out where required. The new network of routes opens up the neighbourhood to the outside area, making it one of the most attractive on the Elbe island.

Architektonic concept (2.437 characters)

The head-end structures designed for the IBA 'Quarter of Nations' by Gerber Architekten are sculptural pieces of architecture that reinterpret the sloping configuration of the roofs on the existing terraced buildings in their own, autonomous architectural language. They combine this quality with the requirements of a passive building, which must be highly energy-efficient, thereby providing a new and distinctive character for the whole area. The structures' sculptural character is particularly well reinforced by the seamless transition of the exterior façade into the roof. The loggias and balconies do not project, but instead remain within the cubature of the structure, thereby allowing the building's shell to retain a visual impression of unity. A total of 75 housing units of different sizes and forms, ranging from two-room single-person apartments to four-room family apartments, are available in the upper storeys of the U building and on all levels of the T-building. The inclusion of housing for single persons, couples and families helps to promote social diversity. All of the apartments conform to the required standards for subsidised housing, with the rents guaranteed to remain at virtually the same level in order to prevent gentrification. All of the housing units have a loggia; in the U building, these face toward the inner courtyard. In the T-building, they face toward the public park. In the interior, the loggias connect directly with the living areas, so that they appear to be an extension of the living space. This fluid transition creates a relationship between the interior and the exterior space. On the side that faces the road, the apartments are fitted with large windows. Some of those on the upper levels have full height, frontally positioned bays that suggest 'sitting in the crown of a tree' and additionally enhance the qualities of the apartments' interior spaces. In the ground storey zone of the U-building, the areas located toward the *Neuhöfer Strasse* are used by a day activity centre that primarily caters to individuals with a migrant background. In both the U-building and the T-building, the whole of the ground storey is entirely free of barriers, and entirely accessible. The recessed entrance elements make the access points easily distinguishable. Each of the entrance areas has its own internal designated ground storey space for the storage of bicycles and baby carriages.

Construction and materials (1.956 characters)

In the implementation of work on the buildings, considerable value was placed on the use of materials that would not be wasteful in terms of resources, and would therefore be appropriate to the commitments associated with social housing provision. The red brick used was worked in the typical Hanseatic fashion, using decorative banding with accentuated recesses and projections. A double-wall, core-insulated system of masonry was used. This allows the U-house to attain the passive building quality standard, and the KfW 40 standard to be retained in the newly constructed T-building element. The zinc sheeting roof covering was influenced by the container landscapes found in the nearby harbor area, but also by a typical Hamburg form of traditional architecture. The exterior façade blends almost seamlessly into the roof area, ensuring that the roof does not project at the eaves or gable end and thereby preserving the sculptural character of the overall form. The bays are closed prefabricated steel constructions suspended in front of the façade, clad with pre-coated metal panels and provided with vacuum insulation; this allows the bay walls to be kept as slender as possible. The plastic windows are equipped with triple sun protection glazing, and are provided with a RAL 7016 coating on

the outside, ensuring that they harmonize with the colouration of the brick and the bays and thereby give the façade a harmonious profile. For the interior, mineral materials were used where possible. The loadbearing and non-loadbearing walls alike are built from sand-lime blocks with mineral gypsum plaster or with mineral lime cement plaster, complete with a coating of a paint that has a high diffusion permeability and is emission-free and solvent-free. The concrete floors are provided with a linoleum covering, and the stairwells have a flooring of abrasion-resistant artificial stone. The wet areas have a flooring of acid-resistant ceramic panels.

Energy concept (1.550 characters)

The energy concept developed for the IBA 'Quarter of Nations' is highly responsible and efficient, featuring optimised systems engineering and regulation and thereby simultaneously reducing environmental impact whilst lowering costs for users. The head-end structures were built either to the passive building standard or the KfW 40 standard, and are therefore energy-efficient, comfortable, economical and environmentally friendly.

With respect to the interior climate, the housing concept incorporates a building shell with a high level of thermal insulation and a mechanical ventilation system with heat recovery capability. The windows, which can be opened individually for each room, are equipped with sun protection glazing, thereby preventing the excessive heating up of the rooms.

Since early 2013, the whole of the 'Quarter of Nations' has been provided with renewable energy from a central energy source, the *Energiebunker*. The name refers to a former flak bunker dating from the Second World War that has been restored to a fit state in order to serve its new purpose. A woodchip-burning combined heat and power plant in the basement storey allows heating and electricity generation to be concentrated in one place, whilst the solar power system on the roof and on the south façade converts solar energy into heat and electricity. In the inner space of the bunker, from which the core elements have been removed, the heat is temporarily stored in a 8,000 m³ water container, so that it can be made available to the neighbourhood as required.

The background to the *Internationale Bauausstellung 2013* (2.120 characters)

Long-term and sustainable development for the inner-city Elbe islands was the fundamental principle of the *Internationale Bauausstellung (IBA)* event held in 2013 in Hamburg. The improvement to these areas was to provide a guiding model for future urban planning projects in social, ecological and architectonic terms.

The Wilhelmsburg 'Quarter of Nations' was developed in connection with the IBA. It is a model intercultural housing project for more than 1,700 residents from 30 different countries of origin. The 'Quarter of Nations's' existing residential development was built by the *Deutsche Wohnungsbaugesellschaft mbH Harburg* in 1939/40 based on plans created by Georg Hinrichs, as housing for the workers of the *Howaldt* shipyards. Today, this development is owned by the municipal housing company, *SAGA GWG*. Following a limited competition held in 2008 - with 20 participants – the former workers' development was transformed into a modern intercultural residential area that conforms to the principles of social housing but also offers the users modern and up-to-the-minute domestic comforts, based upon plans created by seven different architecture firms. In its capacity as an *IBA* model project, the 'Quarter of Nations' is concerned with the key question of how neighbourhoods can be modernised in a socially acceptable manner whilst ensuring the inclusion of the residents. University of Hamburg students surveyed people in the area, questioning them on their concept of 'home', and what their desires were in terms of housing circumstances. The intercultural insights gained from this study were incorporated into the planning process, and influenced the overall design for the neighbourhood. The alteration of the area was implemented in several individual construction phases, making it possible for the residents to remain in the neighbourhood – for the most part –whilst the reconstruction work was carried out and guaranteeing that residents would be able to return to the neighbourhood. The IBA maxims of 'improvement without displacement' and 'to live means to stay' were thus faithfully adhered to.



Esch_1



Esch_2



Esch_3



Esch_4



Esch_5



Esch_6



Esch_7



Esch_8



Esch_9



Esch_10



Esch_11



Esch_12

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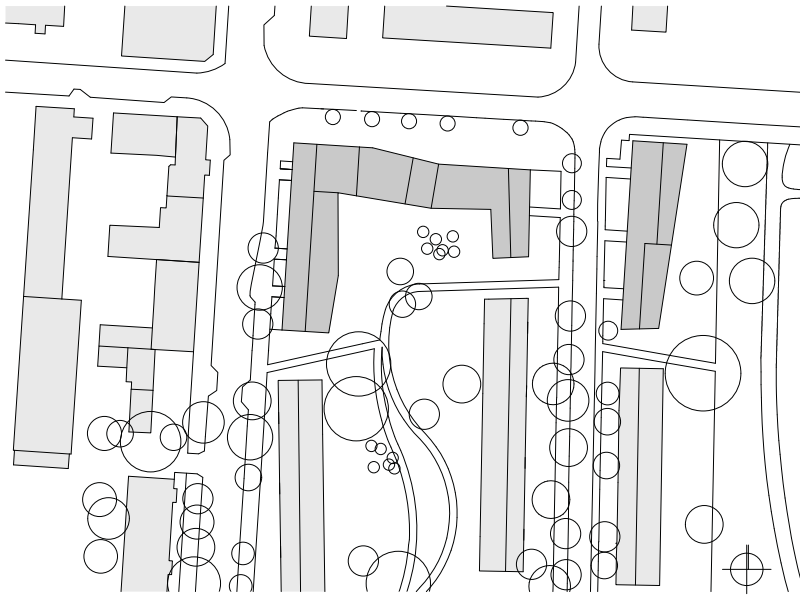


Landes_1

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Drawings



Head-end buildings of the Quarter of Nations Wilhelmsburg siteplan 1_2000

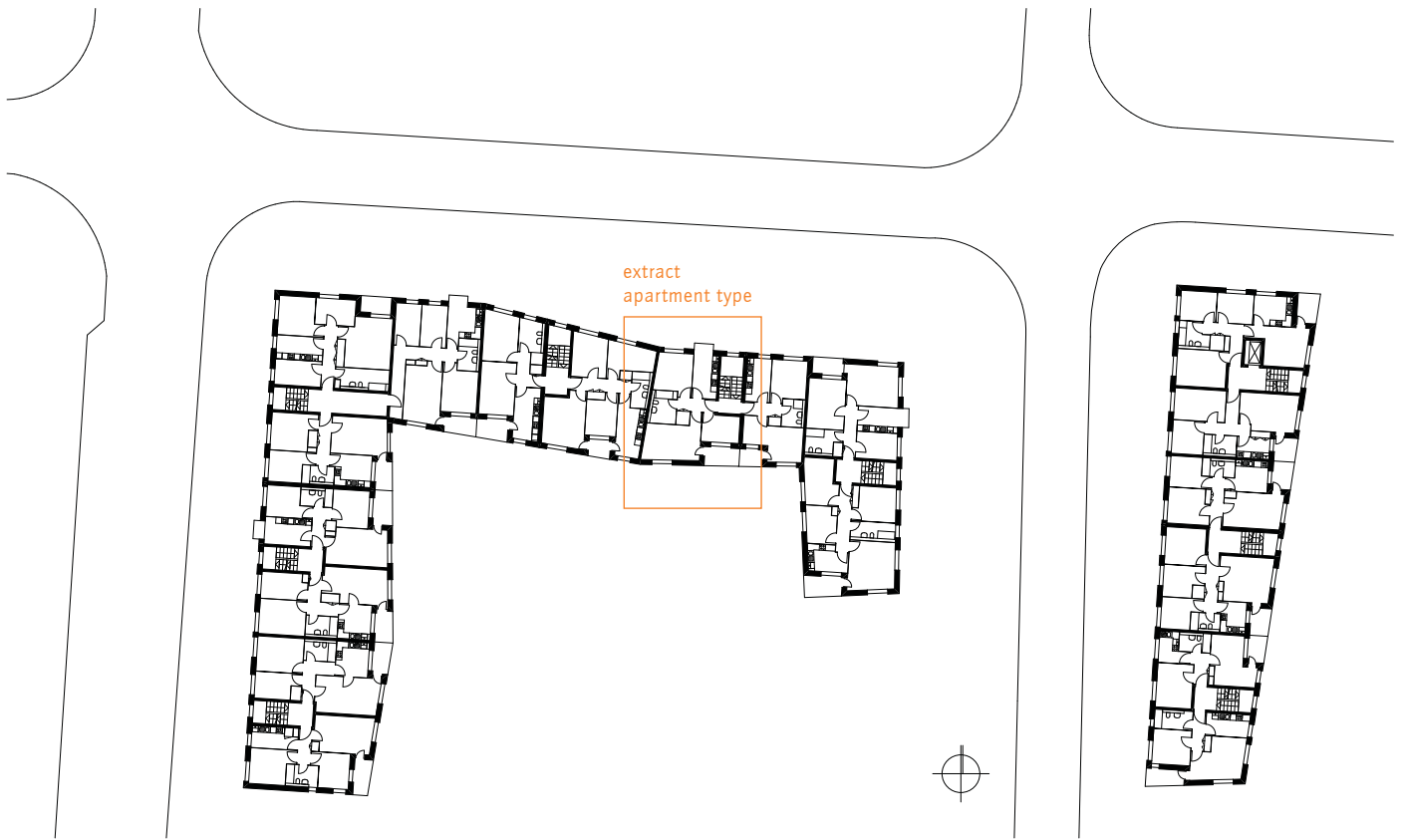


Head-end buildings of the Quarter of Nations Wilhelmsburg siteplan

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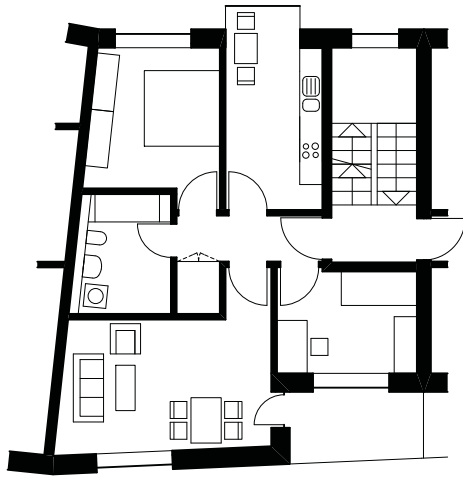


Head-end buildings of the Quarter of Nations Wilhelmsburg floor plan 2nd floor 1_500



Head-end buildings of the Quarter of Nations Wilhelmsburg floor plan ground floor 1_500

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Head-end buildings of the Quarter of Nations Wilhelmsburg extract apartment type 1_200



Head-end buildings of the Quarter of Nations Wilhelmsburg section 1_500

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Basic data

Name:	Quarter of Nations
Location:	Hamburg - Wilhelmsburg
Client:	SAGA GWG
Architecture:	Gerber Architekten
Landscape Architecture:	Andresen Landschaftsarchitekten Lübeck
Structural Framework:	ISP Ingenieure
HVACR:	KPI Planungsgesellschaft GbR
Sound insulation and room acoustics:	Taubert und Ruhe GmbH
Fire protection:	IFB Schütte
Passive house planner:	IB Rozynski and Dipl.-Ing. Robert Heinicke Architekt, Zertifizierter Passivhausplaner
Competition:	2008
Construction:	05/2012 – 09/2014
Completion:	09/2014
GFA:	10.520 m ²

Project team

Architect:	Prof. Dipl.-Ing. Eckhard Gerber
Project director:	Dipl.-Ing. Jens Haake
Project leader:	Dipl.-Ing. Britta Küest Dipl.-Ing. Arthur Schiebelbein
Competition and design:	Prof. Dipl.-Ing. Eckhard Gerber Dipl.-Ing. Hannes Beinhoff Dipl.-Ing. Britta Küest Dip.-Ing. Anna Radicke
Planning:	Dipl.-Ing. Britta Küest Dipl.-Ing. Mariella Kiourktsoglou Dipl.-Ing. Diana Vugner Dip.-Ing. Semra Yüksel Dipl.-Ing. Soudabeh Zerangi Dipl.-Ing. Rüdiger Ameling
Construction management:	Dipl.-Ing. Elke Kutschke Dipl.-Ing. Britta Küest Dipl.-Ing. Claus-Jürgen Tedt
Management building process:	Dipl.-Ing. Barbara Breitenbach

Industrial Index

Clinker	Wienerberger
Nest boxes	Hasselfeldt
Wood-aluminium windows	Niveau
Plastic windows	Schüco
Fittings	Winkhaus
Lightning	Bega
Zinc sheeting roof covering (U-house)	Rheinzink
Zinc sheeting roof building (T-house)	hdf Titanzink
Roof window	Velux
Wall paint	Alligator GmbH
Lack of steel doors	Caparol
WDVS	STO
Tiles	Villeroy & Boch
Concrete stone	EUVAL
Steel doors	GEZE
Linoleum	Forbo

Credits

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Quarter of Nations

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Note

For print publications we kindly asked for a correction file.

Please send it as pdf at presse@gerberarchitekten.de

Complimentary copy requested

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Gerber Architects' Philosophy

The client's requirements are the basis for the development of our design concepts. Deductions from the site's specific characteristics and history, the surrounding structures, climate and access paths, as well as energy and ecological needs - aspects of particular importance today - are all parameters of our design process. Ultimately, the building or urban landscaped ensemble, should, as a unique element, reflect the genius loci, formulating a distinctive and memorable idea of structure and space in all its parts.

By reducing design concepts developed in this way, all important ideas should - in the form of a small logo - be visually imparted, make an impression and set a sign. When the building is used and experienced, this conceptual sign should be perceptible as a structure and in all its parts recognizable through its clarity and conclusiveness, right down to the use of materials and colour. This is only possible, however, when the design's basis is a rational, functionally intelligent, innovative and thus formally expressive concept.

Our goal, as a team of architects, interior designers, engineers, urban planners and landscape designers, is to create built environments that affect people and stir their desires; places people like to visit and linger in; spaces that are tangible and logically accessible. These should be structures that improve the urban and landscaped environment with their beauty and in their simplicity, as well as being exciting in their spatial arrangements, which are clear and self-evident with regards to the orientation between inside and out.

The main aspect of our efforts is to focus within the existing multiplicity of what is right, to distill that to a well proportioned concentrate and to connect things with one another aesthetically, thus creating solutions to the tasks at hand for our fellow beings.

A precise calculation of costs and adherence to the budget are basic requirements for our work. The planning and construction time follow professional construction schedules, which are set up and supervised by our well-cooperating project management. Our planning team with over 145 employees has a knowledge resulting from 50 years of office experience and is equipped with the very latest technical equipment and systems. In order to provide a comprehensive planning service, we are associated with freelance specialized consulting engineers. We work for private and public clients, for companies, industry, commerce and trade organisations, banks and insurance companies and are able to successfully support general contractors and construction companies with the preparation of tenders and the development of working drawings.



Professor Eckhard Gerber

1938	born in Oberhain, Thuringia
1959–1966	studied Architecture at the Technical University of Braunschweig; grant from the Reemtsma Scholarship Fund, Hamburg
1966	founded the studio "Werkgemeinschaft 66"
1973–1975	Assistant at the University of Dortmund under Professor Harald Deilmann
1975	1974 Award for Young Artists from the State of North Rhine-Westphalia for City-Planning and Architecture
since 1979	Gerber Architekten, Dortmund successful competition entries in Germany and in other countries, numerous prizes for realized buildings
1981–1992	Professor of Design Basics and Applied Theory of Design in Architecture and Regional Planning at the University of Essen
1990–2004	Professor of Design Basics and Design in Architecture at the University of Wuppertal
since 1992	Chairman of the Dortmund Art Association
1995–1999	Dean of the Department of Architecture at the University of Wuppertal. Member of the BDA, DWB, frequently head of the jury in architectural competitions, speaker at conferences in Germany and abroad
since 2004	Professor of Design Basics and Design in Architecture in the Master's Study Course in REM & CPM at the University of Wuppertal

Selected projects:

Harenberg City-Center, Dortmund
MDR Broadcasting Centre of Saxony-Anhalt, Magdeburg
New Exhibition Grounds, Karlsruhe
King Fahad National Library, Riyadh
Prince Salman Science Oasis, Riyadh
RWE Tower, Dortmund
Cologne University of Applied Sciences, Gummersbach Campus
University of Applied Sciences, Würzburg-Schweinfurt
Biological Institutes of Dresden University of Technology
Institutes of Physics and Dept. Life, Light and Matter, University of Rostock
Rudolf Virchow Center for Experimental Biomedicine, Würzburg
Art and Media Campus, Hamburg-Finkenau
Dortmunder U – Centre for Art and Creativity

Member of BDA (Bund Deutscher Architekten) and Deutscher Werkbund
Served as jury-chair at many international competitions
Speaker at national and international conferences