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Methods for Protecting, Conserving, Repairing and Reinforcing Highly Vulnerable World Heritage Sites: Guidelines for the Sector BI of the Former Kl Auschwitz II-Birkenau Master Plan for Preservation

Metody ochrony, konserwacji, zabezpieczania i wzmacniania szczególnie wrażliwych obiektów światowego dziedzictwa – wytyczne do Globalnego Planu Konserwacji sektora BI dawnego KL Auschwitz II-Birkenau

Keywords: Auschwitz-Birkenau State Museum, Master Plan for Preservation, vulnerable heritage, masonry structures, wooden roof framings

Słowa kluczowe: Państwowe Muzeum Auschwitz-Birkenau, Globalny Plan Konserwacji, wrażliwe dziedzictwo, konstrukcje murowane, więźby drewniane

Introduction

As early as in the beginning of the 1990s, questions about the future of the Auschwitz-Birkenau Concentration Camp began to be asked with growing concern.[1] The international debate preceding the development of the Master Plan for Preservation (MPP), launched in 2009 in cooperation between the Auschwitz-Birkenau State Museum and the Auschwitz-Birkenau Foundation, stressed the need to provide effective protection for the remains of the last surviving major extermination center and the largest German Nazi concentration camp—the only place of its kind on the UNESCO World Heritage List—in the name of the victims and as a responsibility for future generations.

The obligation incumbent upon Polish society and the state administration to protect the remains of the former Auschwitz I and Auschwitz II-Birkenau Concentration Camps stems not only directly from the provisions of the law, including the 1972 UNESCO Convention to which Poland acceded in 1976, first by depositing its instrument of ratification and then by

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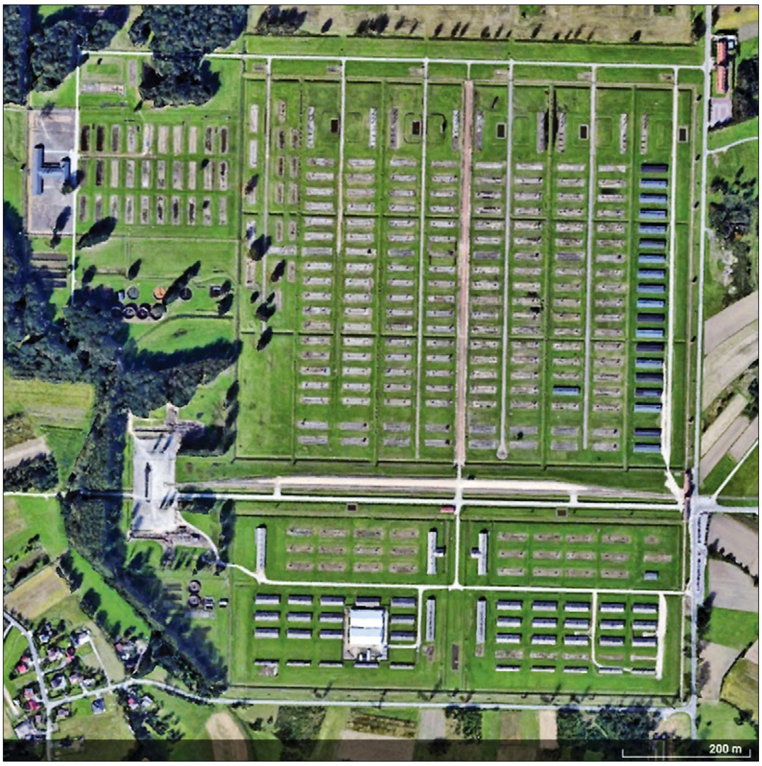

Fig. 1. Aerial photograph showing the former Auschwitz II – Birkenau camp, BI sector seen in the lower section; source: earth.google.com (accessed: 10 II 2021).
Ryc. 1. Zdjęcie lotnicze ukazujące dawny obóz Auschwitz II – Birkenau, sektor BI widoczny części dolnej; źródło: earth.google.com (dostęp: 10 II 2021).

publishing the Polish text of the Convention in the Official Journal of Laws (Dz.U. No. 32 of September 30, 1976, item 190), but also from the significance that this site has for the Polish nation and the nations of the world. As Piotr M.A. Cywiński, director of the Auschwitz-Birkenau State Museum, stated: "Auschwitz lies at the very center of contemporary experience. There is no way to avoid it in the most important questions about mankind, culture, and civilization today. [...] Caring for what remains of Auschwitz thus serves not only the preservation of the historical Place, but also permits us better to understand the events, challenges, and dangers of the contemporary world."[2] The preservation of these objects is particularly important now when the last witnesses of the crimes committed here are passing away, because "there is only one thing worse than Auschwitz itself... and that is if the world forgets there was such place."[3]

The first activities within the framework of the MPP included, among other things, the improvement of the condition of the two historical blocks of the former Auschwitz I Concentration Camp by the principle of minimum intervention[4] as well as the conservation of five wooden barracks, including those used as washrooms and latrines, at the former Auschwitz II-Birkenau site.[5] The greatest challenge of the MPP turned out to be the complex of brick barracks in the oldest part of the former camp in Brzezinka.[6] This sector critically required urgent intervention.[7] This project was a pilot for all brick buildings in sector BI. The aim was to show whether and to what extent it was possible to fulfil the conservation objectives adopted in the MPP: minimum interference in the preserved substance, preserving it the most intact form possible for decades to come, and at the same time making these buildings available to the millions of annual visitors, something their technical condition previously prevented.

Auschwitz II-Birkenau, sector BI

Sector BI is the oldest part of the Auschwitz II-Birkenau camp. Work in this sector began in October 1941, using Soviet prisoners of war and prisoners brought in from Auschwitz I as the labor force, and as building materials—everything that could be salvaged from the houses left after the eviction of the inhabitants of the village of Brzezinka. At the turn of 1941 and 1942, in the autumn and winter months, the first six residential barracks were completed, eight were finished and covered with a roof, and in seven others the walls and roof construction were completed. In time, the threshing floors were finished with flat bricks or thin concrete screed.

The interior of each barracks was divided into several dozen of semi-open sections with additional two levels of berths (*buksa* in the prisoners' slang) intended for four people each. According to SS plans, each barrack was thus designed to hold more than 700 prisoners, and, in some cases, the number was even higher. The brick outer walls were only 12 cm thick

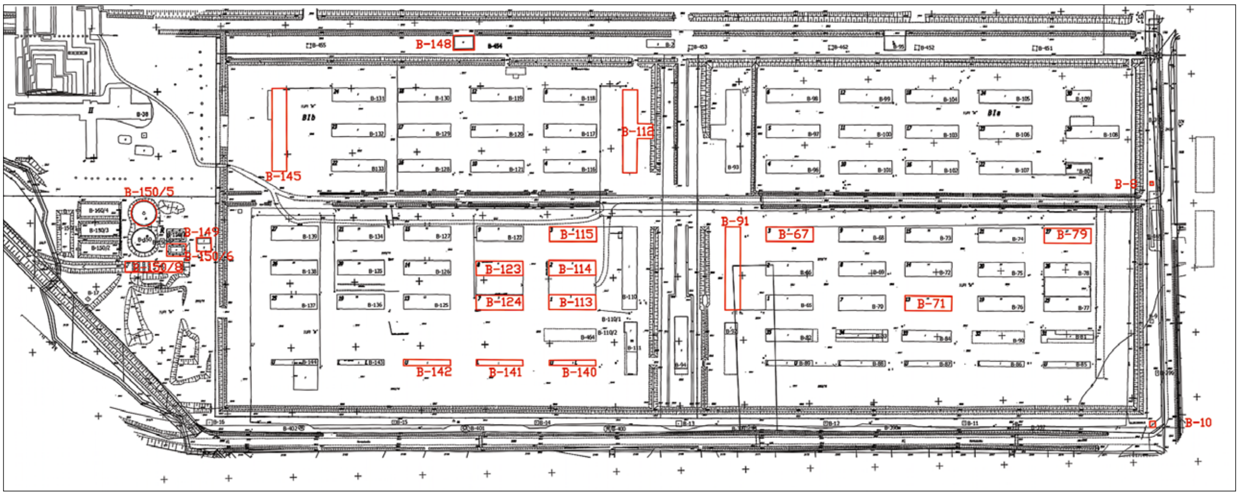

Fig. 2. Map of the buildings of the BI sector subjected to the research project: prisoner barracks (B-67, B-71, B-79, B-113, B-114, B-115, B-123, B-124) and prisoner barrack relicts (B-146), kitchen (B-91), bath and disinfection barrack (B-112), latrines and washrooms (B-140, B-141, B-142), depository warehouse (B-145), sewage treatment plant (B-150/8), Imhoff tank (B-150/6), sprinkler system (B-150/5), fire tank (B-148), air raid shelter (B-398), sewage pumping station (B-149), guard towers (B-8 and B-10), cesspit (B-467); source: S. Karczmarczyk et al., op. cit., by R. Paruch.

Ryc. 2. Mapa budynków z sektora BI objętych projektem badawczym: baraki dla więźniów (B-67, B-71, B-79, B-113, B-114, B-115, B-123, B-124) i relikty baraków dla więźniów (B-146), kuchnia (B-91), łaźnia i barak dezynfekcyjny (B-112), latryny i umywalnie (B-140, B-141, B-142), magazyn depozytów (B-145), oczyszczalnia ścieków (B-150/8), zbiornik Imhoffa (B-150/6), system zraszaczy (B-150/5), zbiornik pożarowy (B-148), schron lotniczy (B-398), pompownia ścieków (B-149), wieże strażnicze (B-8 i B-10), dół kloaczny (B-467); źródło: S. Karczmarczyk et al., op. cit., oprac. R. Paruch.

and had no ceiling partition, so even with so many people inside, the two iron cookers could not heat such a large space. There were no sanitary facilities of any kind in the barracks. It was only at the turn of 1943 and 1944 that a small part of each barrack was allocated to serve those purposes. When construction work resumed in mid-1942, the subsequently built barracks, most of which had not survived, were made of wood. The windowless barracks of the stable type, designed for 52 horses, were supposed to hold about 400 prisoners.

In total, about 300 barracks as well as other facilities, including administrative buildings, 13 km of drainage ditches, 16 km of barbed wire fences, and several dozen kilometers of roads were constructed on the 170-ha site of Auschwitz II-Birkenau. Most of the buildings, especially the wooden barracks, were demolished by the end of 1944 or destroyed during the evacuation of the camp prior to the entry of the Red Army on January 27, 1945.

The first work by the newly restored Polish government to secure the site of the camp with a view to preserving evidence of the crimes committed there by the Nazis began in April 1946. It was decided to reconstruct some of the buildings, including Crematorium I and the so-called Death Wall at the side of block 11 in Auschwitz I, where the condemned were led for execution. The most solid buildings, the Auschwitz I brick barracks, were used as exhibition areas, while the Birkenau camp was left as testimony not only to the crime but also to attempts to erase evidence of it.

These buildings were not erected with a view to a long-term existence, they had never been intended to last. And yet, they document the inhuman conditions of life in the camp but also bear the traces left by otherwise anonymous prisoners, such as inscriptions and drawings. Exposed for decades not only to the atmospheric effects but also to other negative factors at the site of the camp (such as high groundwater levels) or resulting from the very circumstances of their erection, they required protective measures that went beyond the state of art as well as any known case study in the field of conservation and cultural heritage.

Research project

The challenge in the conservation of the brick barracks in the oldest part of the former Auschwitz II-Birkenau concentration camp was not only the very poor technical condition of the buildings, often tantamount to a building disaster but also the lack of a catalogue of good practices and examples to follow. As A. Łopuska emphasized, there are no similar objects in the world in a similar state of preservation, covered by such strict protection at the same time.[8] The pilot project for renovation required, first and foremost, extensive and interdisciplinary research and the development of new conservation methods which could be used in such a sensitive context and at the same time eliminate the replacement of the structure and fabric of the structures with a new or partially contemporary one or the introduction of visible support systems.

The project, carried out in close cooperation with the Conservation Team at the Auschwitz-Birkenau State Museum, involved eight research institutions:

Fig. 3. Barrack B-123, photographic documentation from field research: a—general view, gable wall supported by scaffolding and anti-collapse corset; b—view of the interior, so-called bucks; c—view of the interior, excavation in the floor; d—view of the interior, deformation of the roof truss; photos by B. Krcha 2015.

Ryc. 3. Barak B-123, dokumentacji fotograficzna z badań terenowych: a – widok ogólny, ściana szczytowa podtrzymywana przez rusztowanie i gorset przeciwzawaleniowy; b – widok wnętrza, tzw. kozły; c – widok wnętrza, odkrywka w posadzce; d – widok wnętrza, odkształcenia więźby dachowej; fot. B. Krcha 2015.

the Cracow University of Technology, the Jan Matejko Academy of Fine Arts in Cracow, the AGH University of Science and Technology in Cracow, the University of Agriculture in Cracow, the Gdańsk University of Technology, the Łódź University of Technology (TUL), the Adam Mickiewicz University in Poznań, and the Research and Education Center for Historic Preservation in Nysa. The project carried out between 2013 and 2016, covered the following issues: research into biological corrosion, research into paint layers, physicochemical and strength tests of materials, research into methods of conserving, protecting and reinforcing mineral, reinforced concrete, metal and wooden elements, and key research into developing methods of conserving, securing and reinforcing the structure of buildings, finishing elements and their subsoil, taking into account the statics and physics of buildings. The latter research scope was carried out by a team of employees of the Faculty of Architecture of the Cracow University of Technology headed by Doctor Stanisław Karczmarczyk in cooperation with Laboratory L-1 of the Faculty of Civil Engineering of the Cracow University of Technology. The Institute of Building Design of the Faculty of Architecture headed by Professor Wacław Celadyn acted as a leading entity with the broadest scope of activities.

The scope of the research project carried out by the team of the Cracow University of Technology included, inter alia, description and assessment of the state of preservation of the existing buildings along with systematics of their damage and assessment of the reasons for its occurrence. The analysis of the research results is presented separately in partial reports for each of the studied objects; the technical inspections carried out as well as static-strength calculations of the majority of the structural elements of the structures included in the study were used to develop a global program of structural and constructional safety works in relation to conservation assumptions. The final report summarized the architectural and conservation aspects of the research project and presented guidelines and recommendations for the execution of the works, both descriptively and in the form of drawing documentation. The study also identifies the probable threats to the structural and construction substance of the buildings that may occur during the preliminary and conservation work.

Defects and risks in the BI sector

The numerous technical defects revealed during the investigation, the effects of which grew over the seventy years of the buildings' existence, and the structural

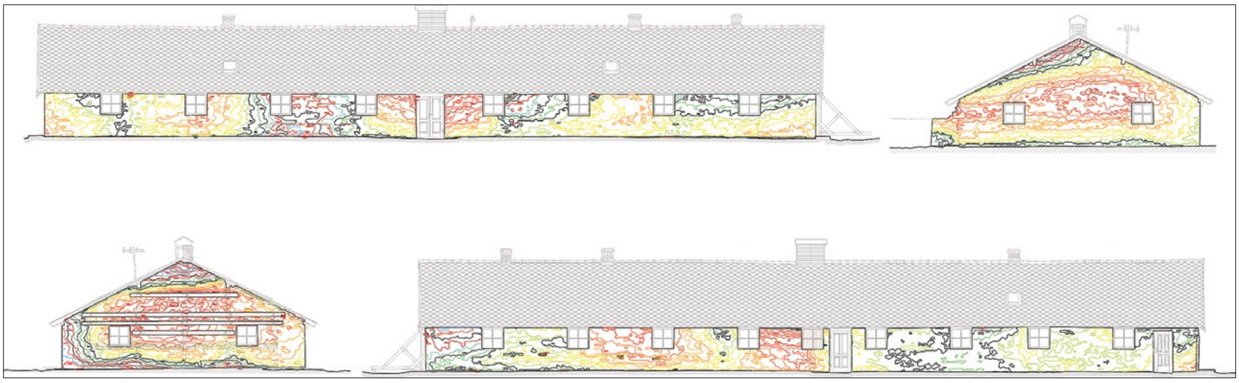

Fig. 4. Image of scanning the longitudinal wall of barrack B-123 based on scans provided by Geotronics Poland; source: S. Karczmarczyk et al., op. cit., by R. Paruch.
Ryc. 4. Obraz ze skanowania podłużnej ściany baraku B-123 na podstawie skanów dostarczonych przez Geotronics Poland; źródło: S. Karczmarczyk et al., op. cit., oprac. R. Paruch.

Fig. 5. Scan image of the gable wall of barrack B-123 based on scans provided by Geotronics Poland; source: S. Karczmarczyk et al., op. cit., by R. Paruch.
Ryc. 5. Obraz ze skanowania ściany szczytowej baraku B-123 na podstawie skanów dostarczonych przez Geotronics Poland; źródło: S. Karczmarczyk et al., op. cit., oprac. R. Paruch.

and constructional conditions required the preparation of individual methods of reinforcement, conservation, and protection. The most difficult tasks in the case of prisoner barracks B-123 and B-124 included restoring the original geometry and original features of deformed and cracked external walls while preserving the original structure of the buildings, ensuring the required level of safety and functional features of the roof load-bearing structure, and stabilizing the foundations of the residential barracks, In particular, protecting the foundations and floors from blow-out phenomena, ensuring the protection of masonry structures and furnishings, including partition walls from capillary rising damp and moisture generated by plant growth and microorganisms.

The high complexity of the research and the tested repair and reinforcement methods resulted from the huge amount of damage found. The most important types of damage occurring in the cubature objects in the BI sector include cracking, spalling and deflection of load-bearing elements related to incorrect statics of the buildings; moisture (the dominant factor for the strength of bricks is the porosity structure, and permanent saturation with ground or precipitation water, frequent in the studied objects, may cause reduction of strength by 10%, the so-called strength in the state of softening) and salinisation (due to damage or lack of damp proofing, the objects in the BI sector are subject to cyclic dampening several times a year; even at low salt content this causes a systematic process of their accumulation in the near-surface layers and deeper mortars); loss of material properties as a result of biological and microbiological corrosion; extreme strain indexes of wooden elements and lack of global load-bearing capacity of roof structures; and extreme deflections of external walls.

The primary causes of the progressive degradation of BI sector facilities include construction of buildings from demolition materials by unqualified persons; uneven operation of the load-bearing system (wall–foundation) and the roofing (roof trusses defectively supported by insufficiently strong brick walls); lack of sufficient rigidity of curtain walls; uneven settlement of foundations resulting from low bearing capacity indices and a rather high average groundwater table; blowing action of the soil on shallow foundations and floor layers; biological and microbiological corrosion; lack of coordinated work after 1959, especially with regard to vertical and horizontal waterproofing; and acts of vandalism.

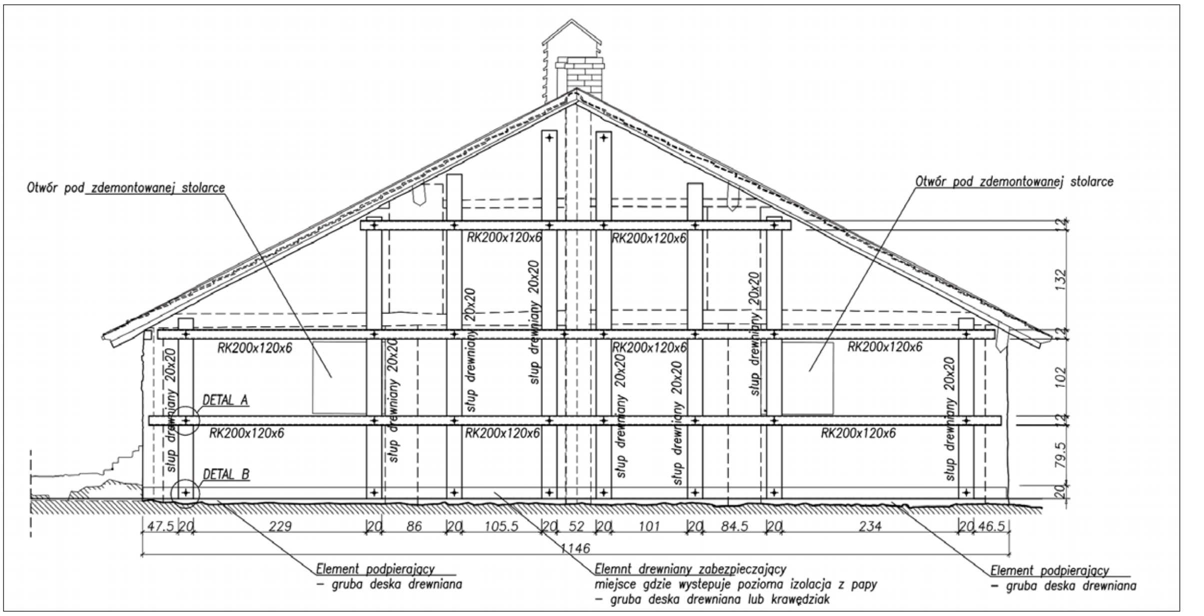

Fig. 6. Western gable wall of the B-124 barrack and the scheme of the strenghtening apparatus used in the pilot project; source: S. Karczmarczyk et al., op. cit., by R. Paruch.
Ryc. 6. Zachodnia ściana szczytowa baraku B-124 oraz schemat aparatu wzmacniającego użytego w projekcie pilotażowym; źródło: S. Karczmarczyk et al., op. cit., oprac. R. Paruch.

Innovative methods to secure and reinforce highly vulnerable buildings: Materials and methods

The individually defined scope of work carried out by the Cracow University of Technology team included: investigation of the subsoil, examination of concrete samples taken from the foundations, examination of brick masonry walls together with mortars, examination of moisture and salinity of brick masonry and concrete foundations, examination of wooden elements taking into account verification with resistograph (RESI)—a minimally invasive resistance measurement device, geodetic surveying of geometric deformations of load-bearing elements, analysis of laser scanning of buildings made available by the Museum, review of the technical condition of all load-bearing elements, preparation of 3D calculation models with static-strength analysis, and performance of all other laboratory tests at the Institute of Materials and Struc-

building	north wall	south wall	east wall	west wall	chimney
B-123	60	80	50	70	90
B-124	40	60	20	60	215
B-91	30	50	100	70	43
B-8	40	40	60	40	none
B-10	40	40	40	40	none
B-113	100	20	20	100	48
B-114	80	60	20	80	69
B-115	50	60	30	80	36
B-67	20	20	100	60	36
B-71	40	60	20	40	49
B-79	20	60	50	80	30
B-112	20	20	40	40	373
B-140	40	20	20	40	50
B-141	60	90	50	40	31
B-142	50	20	60	50	19
B-145	20	40	20	60	-

Table 1. Extreme values of deformation of walls and brick chimneys in objects of sector B1 in millimeters [mm]; by the authors.

tures L-1 Lab. The laboratory work included tests on the minimal number of core samples and other samples taken under the control of the Conservation Team at the Auschwitz-Birkenau State Museum as well as reference samples.

As far as core samples of the foundations are concerned, they were taken from previously prepared open pits in the form of boreholes using a wet diamond drill (75 mm in diameter), and in the external walls—using a dry diamond drill (100 and 50 mm in diameter). Due to the nature of the objects under investigation, samples were taken in extremely limited numbers, in the least visually exposed locations possible, without damaging the drawings or inscriptions. It was also decided to take smaller samples than indicated by the standard method, which recommends samples of 150 mm diameter. The samples identified as necessary for at least this limited range of strength tests to complete destruction were then prepared accordingly and used for other laboratory tests, including moisture and salinity tests.[9]

Foundations

Based on previous research experience and building on the results provided by other parties involved in the project (field, laboratory and computational analysis), the team recommended the reinforced soil injection method as a form of foundation protection.[10] The application of this method makes it possible to increase the mechanical parameters of the soil lying directly under the building and to stabilize the significantly weakened structure of buildings as well as to improve their general stability. This solution also provides protection against the effects of deterioration of ground conditions associated with changes in suspended water levels, which may occur as a result of other works carried out at the site of the former camp or climate change.

In the final report, this method, tested by the team in other projects, including historic buildings, was presented in four variants adapted to the technical condition of the buildings along with a list of preparatory activities, risk assessment and criteria for selection of the variant.

Brick walls

A considerable number of wall deformations in various directions combined with equally numerous cracks, scratches and spalling of brick walls were found in the studied objects. In order to optimize repair methods, a classification of cracks according to dilation was created and appropriate measures were selected for each class.

The study found a high homogeneity of historic mortars and a large variance in the compressive strength of historic bricks, and consequently a large variance in the compressive strength of masonry cores. The challenges of sampling itself described above were not without impact here. The strength of the masonry

Fig. 7. Test of a wall straightening treatment using a test wall carried out in Laboratory L-1 of the Faculty of Civil Engineering of the Cracow University of Technology, 2015; photo by S. Kańka.
Ryc. 7. Test zabiegu prostowania ściany z wykorzystaniem ściany testowej wykonany w Laboratorium L-1 Wydziału Inżynierii Lądowej Politechniki Krakowskiej, 2015; fot. S. Kańka.

was lower than the standard, but this was consistent with the initial assessment of the effects of exposure to external factors.

According to the standard, straightening of the walls should be applied in all cases where the vertical deviation exceeds 20 mm. A summary of the extreme values of deformation in the studied objects is presented in Table 1. In the barracks, it reached a value of 100 mm, and in the case of brick chimneys, it even reached a value of 373 mm. The state of preservation of many objects included in the research project was assessed on this basis as a state of the high probability of loss of stability.

In order to eliminate the need for a system of supports or the use of the only proven method of straightening historical walls involving their detailed inventory, at least partial demolition and reconstruction, which contradicted the assumptions of the MPP, a method for straightening and stabilizing walls was developed.[11] The method was tested using specially prepared replicas of the barracks and tested first under laboratory conditions (Fig. 6, 7) and then under field.[12] Although the procedure of straightening the wall caused small cracks, these, along with other defects, were filled with appropriately selected mortars and micro-cements and carbon fiber bands stabilizing the extremely flimsy (only 12 cm thick) masonry walls erected in autumn and winter in inhuman conditions by the camp prisoners and exposed to the effects of atmospheric agents, capillary rise and microbiological corrosion for nearly eighty years.

Wooden roof trusses

In the case of the roof trusses in the buildings under investigation, it was also not possible to take normative samples for destructive laboratory tests. In order to determine the technical condition of the wooden elements, a pioneering study was carried out using a resistograph (RESI).[13] In combination with the assessment of biological surface corrosion, this allowed us to collect the data necessary to estimate the wood classes for static-strength analysis. The requirements of PN-EN-1995-1-1: 2010 Eurocode 5, PN-EN 338 and PN-EN 1912 could not be unambiguously assigned to the timber elements in the investigated objects. A significant part of the wooden elements located in the buildings studied did not meet the basic requirements of the standard. The only solution was to carry out a correlation of many characteristics obtained from different tests.[14]

The results presented in the final report indicated a very large scatter of material properties of the cross-section of wooden elements within one object and a very low level of bearing capacity. It was therefore necessary to carry out complementary tests on rafter reinforcement using carbon fiber strips and composite material elements.[15] Laboratory tests carried out on rafters removed from the rafters of barracks B-123 and B-124 after their experimental reinforcement with carbon strips showed an increase in flexural strength by 5%. While on a global scale this is not a significant increase, in the case of a single element with a large cross-section it may be more than indicated by laboratory tests. It is noteworthy that the proposed innovative method used composite materials when they were still in the phase of certification.

Conclusion

The development of appropriate methods for the conservation, protection, and reinforcement of the cubature objects in the BI sector of the former Auschwitz II-Birkenau Concentration Camp was only possible by taking into account both tangible and intangible factors and a wide, not necessarily technical, research perspective. All proposed solutions took into account the necessity of assessing the individual condition of individual elements allowing for the evaluation of the minimum effective scope of interference, as well as its role in a complex, sensitive entity that goes beyond its physical manifestation.

The above-described unprecedented and performed for the first time on the site of the former Death Camp inscribed on the UNESCO World Heritage List, made it possible, as evidenced by the success of the pilot implementation, to effectively solve the key problems of wall deformation and eliminate the threats resulting from defects of foundation elements and unfavorable water and ground conditions.[16] Non-destructive, innovative testing of the truss elements and digital static-strength models have made it possible to select the solutions necessary to preserve the integrity and authenticity of the building. Dismantling of individual elements of the roof truss, their conservation and re-assembly would have altered the original historical layout of the layers. Moreover, it was not possible to replace the structural elements with new ones, due to the accepted conservation assumptions of preserving all the original elements if they lose their structural and load-bearing properties.

The methods developed by the team from the Faculty of Architecture of the Cracow University of Technology within the framework of the above-described research project for securing, reinforcing and conserving buildings and their elements, although complete and adapted to the individual conditions and specificity of each object, may require updating in the future as new construction materials appear. However, the revision of the guidelines should only take place based on the results of an equally interdisciplinary research work. Significant support in the implementation of the next stages of the Master Plan for Preservation may be provided by new technologies allowing for, among others, a quick and accurate survey of the sites, including the constantly improved BIM spatial modelling, also used in another section of the work carried out at the site,[17] or 3D static models (both methods were used in this research, too). The completed 3D computational models of each building included in the partial reports, due to their material assumptions and static systems, can form the basis for further computational analyses of the building structure related to the recorded damage or deformation at the stage of execution projects.

Undertaking design and execution activities for historic buildings must be preceded by a reliable and substantive analysis of many components. Historic buildings and structures cannot be evaluated or verified following but the provisions of the applicable design standards or separate technical guidelines applicable to contemporary construction projects. Each element constituting a part of a historic building in such a case requires from the designer particular sensitivity, and in particular wide interdisciplinary knowledge in making decisions that are often important for the sustainability of the historic substance to be preserved for future generations.

In the case of the majority of historic buildings, the elements forming the examined object cannot be classified solely according to the guidelines and assumptions of PN-EN standard. Buildings located in the former camps of Auschwitz I and Auschwitz II-Birkenau constitute, in this respect, unprecedented research and implementation challenges. The Evaluation of the correctness and effectiveness of the method of action based on an analysis of just one issue is practically impossible in their case. On the other hand, even a holistic strategy based on multi-criteria analyses cannot be limited solely to ensuring the permanence and accessibility of these sites, just as the intangible heritage of Auschwitz-Birkenau cannot be separated from the material traces of martyrdom of many nations of the world. This is all the more reason why the successful pilot work carried out in barracks B-123 and B-124, which set a precedent on a global scale, should be regarded as a groundbreaking, globally significant achievement.

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Others / Inne

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[3] Words by Auschwitz survivor Henry Appel, Auschwitz survivor: Auschwitz-Birkenau Foundation, fundacja.auschwitz.org (accessed: 10 XI 2021).

[4] *Zachować autentyzm: Konserwacja dwóch bloków dawnego KL Auschwitz I*, op. cit.

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[11] Ibidem, p. 58–63.

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[13] S. Karczmarczyk et al., op. cit., p. 19–20.

[14] S. Karczmarczyk, R. Paruch et al., *Badania nieniszczące i wzmacnianie zabytkowych drewnianych więźb dachowych*, "Materiały Budowlane" 2016, vol. 6, No. 526, p. 212–214.

[15] S. Karczmarczyk et al., op. cit., p. 65–66.

[16] *Zachować autentyzm: Konserwacja baraków murowanych dawnego KL Auschwitz II-Birkena*, ed. B. Bartyzel et al., Oświęcim 2019, p. 34. See also the footage from the pilot project: *Auschwitz-Birkenau. Baraki – świadkowie historii*, https://culture.pl/pl/wideo/auschwitz-birkenau-baraki-swiadkowie-historii (accessed: 10 II 2021).

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Abstract

The conservation of brick barracks with historical numbers 7 and 8 (B-124 and B-123) was one of the key tasks carried out as part of the Master Plan for Preservation for the former Auschwitz-Birkenau Concentration Camp. The aim of the preliminary project completed in 2019 was to show whether and to what extent it was possible to fulfil the conservation objectives adopted in the MPP: minimum interference in the preserved substance, preserving it in a possibly intact form for decades to come, and at the same time making the buildings accessible to visitors, which had not been possible before due to their technical condition. All works in the BI sector, both completed and planned, are based on research results and methods developed over the course of a long-term, interdisciplinary research project. This article presents the most important results of research carried out at the Faculty of Architecture of the Cracow University of Technology and selected methods of protection and strengthening developed by the team for this vulnerable heritage.

Streszczenie

Konserwacja baraków murowanych o historycznych numerach 7 i 8 (B-124 i B-123) była jednym z kluczowych zadań realizowanych w ramach Globalnego Planu Konserwacji byłego obozu Birkenau. Celem zakończonego w roku 2019 projektu pilotażowego było sprawdzenie, czy i w jakim stopniu możliwe jest spełnienie przyjętych w GPK założeń konserwatorskich: minimalnej ingerencji w zachowaną substancję, jej zachowanie w możliwie nietkniętej formie na kolejne dziesięciolecia i równocześnie udostępnienie tych obiektów zwiedzającym, co wcześniej, ze względu na ich stan techniczny, nie było możliwe. Wszystkie działania w sektorze BI – zakończone, trwające i planowane – oparte są na wynikach badań i metodach opracowanych w ramach wieloletniego, interdyscyplinarnego projektu badawczego. Artykuł przedstawia najważniejsze wyniki badań realizowanych na Wydziale Architektury Politechniki Krakowskiej oraz wybrane metody zabezpieczenia i wzmocnienia opracowane przez zespół na potrzeby tego wrażliwego dziedzictwa.