

The Prefab Museum Education Pack

Post War Prefabs



Introduction



Following the Blitz of 1940-1 the wartime coalition government proposed a committee to explore solutions to the housing crisis when the war ended. The Burt Committee concluded that prefabrication could be used to manufacture and erect houses quickly, utilising factories and creating employment.

In 1943, the Government invested in a prototype, temporary steel bungalow, which became known as the “Portal Prototype” named after Lord Portal, Minister of Works 1942-44. The ‘Portal’ provided inspiration to companies who were commissioned to design and produce their own versions, but within specific guidelines.

All approved prefabricated units had to have a minimum floor space size of 635 square feet (59.0 m²), the parts a maximum of 7.5 feet (2.3 m) wide to allow for transportation by road, and to house a ‘central service unit’. The prefabricated bungalows quickly acquired the shortened name of ‘prefabs’ which endures to this day.

In a speech in March 1944, Prime Minister Winston Churchill promised 500,000 temporary new homes to deal with the housing shortage. The government delegated powers to local authorities to acquire land, prepare the sites and install the infrastructure, roads and utilities. Local authorities applied for the number of prefabs they needed, submitted layout plans, and when the sites were ready handed them over to the Ministry of Works in preparation to receive the prefabs.

156,623 temporary prefabricated bungalows were produced in Britain under the 1944 Temporary Housing Programme. They were erected across the UK between 1945-9 from one or two on bomb sites to large estates of 500 and more.

It was anticipated that after 10 years they would be replaced with permanent housing. Although the majority of prefabs were demolished, a few thousand survive still inhabited over 70 years later.

Prefabs – modern living



Prefabs were prioritised for returning service personnel and their families, key workers, people who had been bombed out of their homes and those who were living in overcrowded, insanitary conditions.

Each prefab contained a fitted kitchen (with refrigerator, cooker and water boiler for washing clothes), an indoor bathroom with heated towel rail, toilet, fitted cupboards and a back boiler which provided constant hot water and a rudimentary vented hot air heating system to the two bedrooms. The bathroom and kitchen were 'back to back', connected by the central service unit. Prefab bungalows were detached, and had gardens all round. The prefabs were painted magnolia, with green windows.

Initially people were suspicious of prefabs and thought they would be inferior to permanent houses or flats. People liked them straight away, as well as the lifestyle they created; families were from the same background and of similar ages. Rents were affordable, the built in cupboards and appliances meant that new tenants didn't have to spend money on them, and the large gardens enabled them to grow vegetables and fruit while rationing was still in force.

The prefabs had an important social function too. Many families, or couples, were living in rented rooms with shared facilities, or with relatives. Prefabs offered a proper detached home, which it was hoped would attract women out of the factories and enable men to return to work there. Many of the prefab occupants remained in their original prefab until it was demolished.

History of prefabrication



Prefabrication is a method of producing standardised components off-site in a factory, that can be fitted together on-site. The components can be shipped flat packed or partially assembled and are not subject to weather conditions when they are manufactured.

Prefabrication is not new, from the ancient Romans who used concrete moulds for their aqueducts and tunnels to William the Conqueror who brought prefabricated sections of defences with him when he invaded England in 1066. Prefabricated farm buildings and bungalows had been available since the early 19th century. Henry Manning, a London carpenter, produced the Portable Cottage in 1837 for export to Australia. From the turn of the 20th century Sears Roebuck supplied 'Modern Homes' mail order kit homes across the USA.

The factors that influenced the decision to produce prefabs in the UK at the end of the Second World War were:

- An acute shortage of skilled construction workers and the need to provide semi- and unskilled jobs when the war ended,
- Mass production techniques to manufacture homes quickly, and economies of scale to reduce the cost,
- The Tennessee Valley Authority, created in 1933 under Franklin Roosevelt's New Deal to build dams across the Tennessee River valley. Temporary towns were designed and constructed for the workers,
- The Frankfurt 'fitted' kitchen designed in 1926 by Austrian architect Margarete Schütte-Lihotzky for architect Ernst May's social housing project in Frankfurt,
- Armaments production in the factories coming to an end when the war was over. The Aircraft Industry Research on Housing (AIROH) had begun to make plans to convert factories to house production as early as 1942.

Question sheet

What are the advantages of prefabrication compared to traditional building techniques (for example bricks and mortar)?

Name the materials prefabs were made from.

In what ways did prefabs help with the housing crisis at the end of the Second World War?

Can you think of any other ways prefabs helped with the rebuilding of post-war Britain?

What modern facilities did prefabs have that other homes lacked?

In what way were prefabs different from other houses or bungalows?

What did people who lived in prefabs think of them, and what did they like about them?

What did the people who moved into the prefabs have in common with each other?

Imagine you were asked to design a prefab for yourself and your family. What would it look like and what facilities would it have?

AIROH



The AIROH B2 bungalow was manufactured in former aircraft factories from aluminium alloy. AIROH (Aircraft Industries Research Organisation) was set up by manufacturers with a view to using their factories for house production after the war ended.

AIROH prefabs were cast in four sections complete with internal fittings, delivered by road, craned into place and bolted together. An AIROH prefab could be manufactured every 12 minutes. 54,500 were manufactured. Each prefab cost £1600 to produce. The largest estate of AIROH prefabs was at Belle Vale, Liverpool with over 1100 bungalows.

Competitions were held to see how fast a prefab could be assembled and erected, and the record was 40 minutes!

AIROHs in museums:

St Fagans National Museum of History, Cardiff.

We moved into the prefab in 1950 when I was four years old. I discovered I had my own bedroom for the first time after always sharing a bedroom with my parents. Mum was worried I wouldn't settle, but I loved it! The kitchen had fitted cupboards on one wall with drawers below. I can't actually remember what the cooker was like but we did have a built-in fridge. My dad used to make ice cream – as a special treat!

Christine Antonini, West Heath, Birmingham.



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Main photo: AIROH prefab at St Fagans National Museum of History © Selim Korycki. Archive photo © Judy Hewins.

Arcon



The Arcon MkV was the second most manufactured prefab. 38, 859 prefabs were manufactured and distributed across the UK. The Arcon was one of the shortlisted designs on display at the Tate Gallery (now Tate Britain) in July 1944. 2,500 components were needed, involving 145 manufacturers!

Arcon (Architectural Consultants) was a new type of research organisation, sponsored by several manufacturers with the aim of improving links between industry and architecture. Founded in 1943 by the architects Edric Neel, Rodney Thomas and Raglan Squire they were joined by Jack Howe the industrial designer.

Taylor Woodrow, the construction company, oversaw the production of Arcon prefabs. The Arcon has a rolled steel frame double clad with corrugated asbestos cement sheets and each prefab cost £1200 to produce.

Arcons in museums:

Avoncroft Museum of Historic Buildings, Bromsgrove, West Midlands,
Rural Life Centre, Tilford, Farnham, Surrey.

After the war my mother, me aged two and my baby brother were living with my grandparents in crowded accommodation in Chislehurst. Kent. Mum applied for one of the new prefabs being erected in St. Paul's Cray. Dad was still away in the navy. Mum loved her prefab especially all the built in mod cons in the kitchen! We lived there for five years before moving back to a new council house in Chislehurst.

Kathryn Swain, St. Paul's Cray, Kent.



Phoenix



The Phoenix prefab was designed by Laing with its partners McAlpine and Henry Boot. It has a steel frame and is clad with corrugated asbestos cement sheets with a tubular steel roof. Each Phoenix prefab cost £1200 to produce. A specially insulated version was manufactured for the Isle of Lewis in the Outer Hebrides at a cost of £2000 each.

Sixteen of the seventeen Phoenix prefabs in Wake Green Road, Moseley, Birmingham, were listed Grade II by English Heritage (now Historic England) in 1998.

The Wake Green Road prefabs were nominated by the Prefab Museum in 2017 to be included in Historic England's Irreplaceable - the story of England in 100 places. They were chosen by George Clarke, architect and TV presenter, in the Homes and Gardens category together with Windsor Castle and Blenheim Palace!

We were the first occupants of one of the prefabs, having moved from rented accommodation near Moseley Road Baths. I was nearing two years old when we moved in November 1945 and it was my brother's fourth birthday.

All through the bitterly cold winter of 1946/47 life must have been especially difficult for Mother. I've read about fuel and power shortages and snow on the ground well into '47. Rationing was still around as well but the good thing about those days was how neighbours supported each other. I remember prefab neighbours sharing 'a cup of sugar' or a 'bucket of coal' occasionally.

Terry Dean, Moseley, Birmingham.



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Main photo: Phoenix prefabs on Wake Green Road, Birmingham © Kevin Thomas. Archive photo © Ronald Moore.

Swedish House



Swedish timber prefabricated houses and bungalows were exported flat packed to England and Scotland between September 1945 and March 1946 and sited in rural areas to house agricultural and key workers. The design was adapted by the Ministry of Works from a standard Swedish kit.

A memo from Frederic Marquis, the Minister of Reconstruction, to the War Cabinet on 14th December 1944 requested that the Minister of Works be authorised “to purchase from Sweden up to 30,000 prefabricated timber houses of a type which would be suitable for permanent dwellings, especially in rural districts.”

5,000 were imported, 2,500 to England and Wales and a further 2,500 to Scotland. Many are still inhabited today. Swedish houses and bungalows are timber framed and clad in prefabricated vertical tongue-and-groove timber panels which are double thickness with insulation in between.

A pair of semi-detached dormer bungalows in Auckley, South Yorkshire, was listed Grade II by Historic England in 2007.

I think it's a very cheerful house. It feels like you're on holiday here. It's not dark and heavy, like a stone house. I feel like I can make noise in this house – sing, play the piano and laugh – and not worry about the noise bothering my neighbour because of the design of the house. I just love being here so I hope one day it will go to somebody who loves it too.

Gillian Kennedy, Pool-in-Wharfedale, West Yorkshire



Tarran



The Tarran was designed and manufactured by the building firm of Robert Greenwood Tarran of Hull. Robert Tarran, who had started life as an apprentice joiner, built up his successful building company in Hull.

The Tarran has a timber frame clad in precast reinforced concrete panels and weighs 14 tons, the heaviest of the prefab bungalows. More than 19,000 Tarrans were erected under the Temporary Housing Act, and each prefab cost over £1000 to produce.

Tarran prefabs are the most numerous of prefabs still lived in, mainly in East Anglia and the north east of England. There are several large estates of 100 or more Tarran prefabs in Ipswich, Sunderland and Newcastle. Residents in Ipswich successfully campaigned to save their prefabs from demolition and their homes now have a new lease of life.

Tarrans in museums:

Eden Camp Modern History Theme Museum, Malton, North Yorkshire,
Sandtoft Trolley Bus Museum, Epworth, Doncaster, South Yorkshire.

There's a sense of community, people keep an eye on each other, to make sure everybody is ok. I like that there are no stairs, no upstairs to look after. In fact, when I want to Hoover the complete bungalow, I can use one socket in the entrance hall, and I can Hoover every room in the house.

Bernard Dye, Killamarsh, Derbyshire



UK100



In December 1944 the wartime coalition government requested help from the United States to supply prefabricated houses under the Lend-Lease programme. The United States agreed to provide 30,000 of the UK100 type, destined for the UK in 100 parts. They were the first prefabs to be constructed and were sent to where the need was greatest.

After the war in Japan ended the Lend-Lease programme finished and costs increased so only 8,000 of the original 30,000 were delivered. Another 8,000 went to France to supply the bombed coastal towns and cities of Normandy and Brittany, where some are still lived in today. One has been reconstructed in a museum, Memoire de Soye in Plomeur, Brittany.

The UK100 has a timber frame clad in sheets of Homasote, a type of fibreboard. Adapted to Ministry of Works specifications, it had the modern conveniences and appliances of the British made prefabs with the exception of a fridge. There is only one known UK100 in the UK still lived in, in Hertfordshire. It was reassembled there in 1956 and continuously inhabited since.

My own prefab was at Furze Lane, Milton, Portsmouth, one of 50 (we were No.44). On leaving in 1960, we jumped at the chance of a move to another prefab on a different estate, but we were warned that it would be only for 5 years until, they, too, were demolished. There were lots of estates of prefabs in the city because the bombing had been so heavy in such a densely populated place. The second prefab was of the Universal design and so I had the pleasure of telling people that I had grown up in a cardboard house, then an asbestos one!

Peter Gale, Portsmouth, Hampshire



Uniseco



The name 'Seco' originates from the initials of Selection Engineering Co Ltd which was responsible for the design and development of the Seco Unit System of Construction. The Uni-Seco Mk3 temporary bungalow was the third most manufactured prefab of the Temporary Housing Programme with 29,000 built. The principal materials used were timber, asbestos-cement and wood wool with steel framed windows. There were two versions, one with a central entrance and the other with a corner entrance. They were both Mk3s and had distinctive 'wraparound' steel windows which gave them a modernist appearance. A Uni-Seco prefab cost £1130 to produce.

Six Uni-Seco prefabs, on the Excalibur Estate in London, were listed Grade II in 2009 by English Heritage (now Historic England).

Uni-Secos in museums:

Imperial War Museum, Duxford, Cambridgeshire.

Having spent much of my youth at my grandparent's prefab in Reeves Road, Bromley-by-Bow, London E3 brought back many happy memories. There were about six Uni-Seco central-entrance type prefabs running along the north side of Reeves Road from the Devons Road junction, with gardens backing onto the Fenchurch Street/Southend railway embankment, traditional terraced houses continuing thereafter. My grandparents lived in the first one - No. 24.

Bill Hickin, Hackney, London



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Main photo: Uni-seco prefab on Excalibur Estate in Catford, South London © Jane Hearn. Archive photo © Mirrorpix.

Universal



The Universal prefab was manufactured by the Universal Housing Company of Rickmansworth in Hertfordshire. The Universal Housing Company had constructed many non-traditional houses using prefabricated sections before the Second World War.

2,000 Universal prefabs were manufactured at a cost of £1218 each. The Universal had a timber frame clad with corrugated asbestos cement panels and 17 steel framed windows.

Although manufactured in smaller numbers than the other prefabs, the Universal was widely distributed. There are no known lived in examples, but several are still in use as farm buildings or storage - even a cattery!

Universal prefabs in Museums:

Chiltern Open Air Museum, Chalfont St Giles, Buckinghamshire.

Well at the time we thought: gosh this is really modern, it's got a bathroom, you've got somewhere to wash your hands, you've got a toilet inside. We had one down at the bottom of the garden. So it was luxury to us, you know, and I still remember that. And walking in it today, you know, is really sort of like stepping back in time. But if you compare the living accommodation in most people's houses at the time that was really quite modern. And very homely, you know. Because it was warm.

Rosemary Carden, Amersham, Buckinghamshire



Permanent prefabs



The Burt Committee produced a number of reports on permanent prefabs, which were described as Official Permanent Prefab Houses. The permanent prefabs were two storey houses with steel or concrete frames clad with precast reinforced concrete (PRC) panels, with the exception of the Hawksley BL8 bungalow.

Large numbers of these permanent prefabs were constructed across the UK and many remain inhabited today. Many have also been over clad, or had the original cladding replaced, to improve insulation. Of the different types of houses constructed using PRC and/or steel, these three types were the most manufactured:

- Wimpey No-fines. The no-fines, which refers to aggregates used in the concrete, system was developed between the wars. 53,371 were constructed.
- BISF (British Iron and Steel Federation). The BISF house is a distinctive design with very large windows and steel cladding to the upper storey. 31,516 were constructed.
- Airey. The Airey house with its distinctive horizontal concrete panel cladding, was designed for rural areas, like the Swedish imported houses. 25,567 were constructed.

HAWKSLEY BL8 PERMANENT PREFAB BUNGALOW

The Hawksley BL8 is a semi-detached, three bedroom, timber framed and aluminium clad bungalow.



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Main photo- Airey house. Bottom photo- Hawksley BL8. Both images taken in Sawston, Cambridgeshire © Elisabeth Blanchet.

Prefab Museum

The Prefab Museum was co-founded by Elisabeth Blanchet, photojournalist and Jane Hearn, community development worker. Established in a vacant post-war prefab bungalow on the Excalibur Estate, Catford, London for the month of March 2014, the museum was so successful Elisabeth and Jane opened it for a further six months. Over 4,000 visitors came to see this marvel of post-war design and share their memories and photos. Supported by prefab enthusiasts from across the UK and around the globe Elisabeth and Jane continued to collect and share these memories.

The Moving Prefab Museum and Archive was a Heritage Lottery Fund project from May 2016 to February 2018 to explore, document, record and share the history, memories and photos of post-war prefabs to create a national archive. The project took the Prefab Museum on the road and online, mapping the former locations of prefabs to create a picture of post-war recovery and social history.

Books to read:

Elisabeth Blanchet, "Prefab Homes", 2014

Colin Davies, Professor of Architecture, "The Prefabricated Home", 2005

Ian Abley, co-author of "Why is construction so backward?", 2004

Greg Stevenson "Palaces for the People, prefabricated homes in post-war Britain", 2003

Brenda Vale: "Prefabs: The history of the UK Temporary Housing Programme", 1995

Brian Finnimore, Architect, "Houses From The Factory", 1989

Community prefab archives online:

Belle Vale Prefabs (Liverpool) <https://www.facebook.com/bellevaleprefabs/>

Shrublands Community Archive (Norfolk) <http://shrublands.communityhistory.net/>

Epsom & Ewell History Society (Surrey) <http://www.epsomandewellhistoryexplorer.org.uk/MoreOnPrefabs.pdf>

Acocks Green (Birmingham) <http://aghs.jimdo.com/acocks-green-s-vulnerability/prefabs-updated/>

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