



Department for
Business & Trade

CONSTRUCTION MATERIAL PRICE INDICES METHODOLOGY

**For Table 1 of the monthly statistics of building materials and
components**

July 2023

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Introduction

The Department for Business and Trade (DBT) Construction Material Price Indices (CMPIs) give a measure of the notional trend of input costs to a contractor in terms of changes in the cost of building materials, i.e. factory gate prices charged by materials manufacturers.

The indices do not take into account current market conditions experienced by a contractor on a particular project purchasing from sub-contractors, merchants or factors (i.e. materials discounts or premiums paid for material resources in short supply).

The compilation of the indices involves the combination of Producer Price Indices (PPI) produced by the Office for National Statistics (ONS) to produce the Price Adjustment Formulae Indices (PAFI), published by the Building Cost Information Service (BCIS). The PAFI are combined to produce sector Resource Cost Indices (RCIs), which were formerly produced and published by BCIS on behalf of DBT, and are now produced and published by BCIS using the same methodology for their own purposes. The CMPIs are the materials content of the sector RCIs weighted by Construction Output to produce indices for:

- New Housing
- Other New Work
- Repair and Maintenance
- All Work

The indices are supplied by BCIS to DBT for publication in Table 1 of their monthly publication *Building materials and components*.

Sources

The data sources used to compile the DBT CMPIs are:

- **RCIs published by BCIS:** These indices were formally produced by DBT but were discontinued in September 2014. BCIS has continued to calculate these indices using the same methodology and they are published in its *Public Sector Price and Cost Indices* online service. There are separate materials cost indices for:
 - House Building
 - Building Non-Housing
 - Infrastructure
 - Maintenance for Housing
 - Maintenance for Non-Housing
 - All Construction

The CMPIs are based on a combination of these indices. The RCIs are weighted averages of the PAFI.

- **PAFI published by BCIS:** The materials inputs to the PAFI are mainly the ONS PPIs. Details of the compilation of PAFI are available in *Price Adjustment*

Formulae for Construction Contracts: USERS GUIDE, 1990 Series of Indices, May 1995, published by HMSO (ISBN 0 11 752951 6). In summary, for the Building Formula, each Work Category index is compiled as a weighted average of labour, plant and materials indices. The component labour and plant indices are also published separately. For the Specialist Engineering Formulae, separate labour and materials indices are published. See details in the Calculation method section below.

- **PPIs published by ONS:** A user guide and methodology is available at: www.ons.gov.uk/economy/inflationandpriceindices/methodologies/pricesuserguidance/methodologyanddevelopments#producer-price-index-ppi-user-guidance-and-methodology
- **Other Materials price indices compiled by BCIS:** See details in the Calculation method section below.
- **Value of construction output in Great Britain:** current prices, non-seasonally adjusted – by sector, published by ONS: Further details are available at: www.ons.gov.uk/businessindustryandtrade/constructionindustry/bulletins/outputintheconstructionindustry/previousReleases

Coverage

The DBT Construction Material Price Indices are published by the Department for Business and Trade consist of the following:

- Construction Material Price Index: New Housing
- Construction Material Price Index: Other New Work
- Construction Material Price Index: Repair and Maintenance
- Construction Material Price Index: All Work

Application and relevance

The CMPIs measure the price movement, up or down, of construction materials within the above sectors, and are used by all sides of the construction industry for assessing changes in building costs.

The index values are UK national averages. Regional indices are not available.

Publication

The CMPIs are monthly indices and are available on the [DBT website](#) in a range of formats.

The indices are usually published on the first Wednesday of the month.

The latest provisional index values available are for two months prior to the publication month.

Revision policy

Index values are normally held provisional for three months, after which they are published as firm. The index value may change as the index becomes firm.

Once published as firm, the index will not be changed for revisions in the input data.

A firm index will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision to a firm index is

necessary then the index will be marked as 'Revised' for the current publication, but this marker will be removed in subsequent publications.
Any major changes or revisions will be pre-announced, where practicable, together with the reasons for the revisions and how they are handled.

Range

There are no forecasts published.
The earliest available indices are for January 1996.

Calculation method

Construction Material Price Indices

The CMPIs are compiled by weighting together the materials only content of the following Resource Cost Indices:

- House Building (HOCOS)
- Building Non-House (NOCOS)
- Infrastructure (FOCOS)
- Maintenance for Housing (HOMACOS)
- Maintenance for Building Non-Housing (NOMACOS)

The RCIs are weighted together to produce the CMPIs as follows:

CMPI	RCI
New Housing	House Building (HOCOS)
Other New Work	Building Non-Housing (NOCOS) Infrastructure* (FOCOS)
Repair and Maintenance	Maintenance for Housing (HOMACOS) Maintenance for Building Non-Housing (NOMACOS)

**Note: Infrastructure includes Repair and Maintenance*

The weightings used to calculate the CMPIs are derived by multiplying the appropriate materials proportion (materials only index divided by the combined building index) by the relevant value of construction output at the sector level.

These weightings are then applied to the materials only RCIs and combined as shown in the table above, resulting in the published CMPIs.

Resource Cost Indices

The RCIs are compiled from the PAFI.

Relevant PAFI are weighted together to create sector RCIs using weights established by an industry working party. Details of the weights used can be found in the tables below.

For the building sectors, the RCIs include labour, plant and materials elements. The total combined base weightings of labour and plant are known so 'labour only' indices can be calculated. The 'labour only' indices are then deducted from the appropriate overall combined sector RCI resulting in 'materials only' indices.

For the civil engineering series, the materials only indices are available directly from the PAFI.

Weights applied to PAFI Building and Specialist Engineering Series 3 to produce the building sector RCIs

PAFI Building and Specialist Engineering Series 3

base weights (June 1990 = 100)

Code	Name	HOCOS	NOCOS	HOMACOS	NOMACOS
3/01	Demolitions	1.84%	0.75%	0.00%	0.00%
3/02	Excavation and Disposal	3.72%	2.50%	0.29%	0.51%
3/03	Filling: Imported, Hardcore and Granular	2.89%	3.50%	0.59%	0.21%
3/04	Piling: Concrete	0.33%	1.25%	0.00%	0.06%
3/05	Piling: Steel	0.07%	0.50%	0.00%	0.06%
3/06	Concrete: In Situ	5.96%	7.25%	5.19%	3.79%
3/07	Concrete: Formwork	1.14%	3.00%	1.89%	1.60%
3/08	Concrete: Reinforcement	1.08%	2.25%	1.07%	1.25%
3/09	Concrete: Precast	1.13%	2.50%	0.75%	0.69%
3/10	Brickwork and Blockwork	10.85%	7.50%	4.96%	4.70%
3/11	Stonework	0.14%	0.50%	0.31%	0.21%
3/12	Softwood Carcassing and Structural Members	5.82%	4.75%	8.92%	5.03%
3/13	Metal: Decking	0.00%	0.75%	0.00%	0.06%
3/14	Metal: Miscellaneous	0.79%	1.00%	0.69%	0.77%
3/15	Cladding and Covering: Glazed	0.04%	1.00%	0.04%	0.35%
3/16	Cladding and Covering: Fibre Cement	0.67%	1.25%	0.04%	0.21%
3/17	Cladding and Covering: Coated Steel	0.04%	2.50%	0.04%	0.27%
3/18	Cladding and Covering: Plastics	0.00%	2.00%	0.00%	0.27%
3/19	Cladding and Covering: Glass Reinforced Plastics	0.19%	0.75%	0.04%	0.35%
3/20	Cladding and Covering: Slate and Tile	4.26%	1.50%	3.25%	2.12%
3/21	Cladding and Covering: Lead	0.95%	1.12%	0.35%	0.65%
3/22	Cladding and Covering: Aluminum	0.05%	0.50%	0.04%	0.21%
3/23	Cladding and Covering: Copper	0.07%	0.50%	0.04%	0.21%
3/24	Cladding and Covering: Zinc	0.18%	0.50%	0.35%	0.37%
3/25	Waterproofing: Asphalt	0.44%	1.00%	0.89%	2.99%

3/26	Waterproofing: Built Up Felt Roofing	1.00%	1.75%	1.98%	2.71%
3/27	Waterproofing: Liquid Applied Coatings	0.35%	1.00%	1.01%	1.65%
3/28	Boards, Fittings and Trims: Softwood	3.66%	1.20%	3.35%	2.40%
3/29	Boards, Fittings and Trims: Hardwood	1.38%	1.10%	1.80%	1.79%
3/30	Boards, Fittings and Trims: Manufactured	2.97%	2.00%	1.89%	3.92%
3/31	Linings and Partitions: Plasterboard	2.43%	1.75%	1.55%	2.84%
3/32	Linings and Partitions: Self Finishing	0.77%	1.50%	0.48%	1.65%
3/33	Suspended Ceilings	0.33%	2.25%	0.20%	1.95%
3/34	Raised Access Floors	0.00%	1.00%	0.00%	0.45%
3/35	Windows and Doors: Softwood	5.59%	2.00%	5.25%	4.21%
3/36	Windows and Doors: Hardwood	2.44%	1.50%	2.38%	2.26%
3/37	Windows and Doors: Steel	0.18%	1.25%	1.12%	1.95%
3/38	Windows and Doors: Aluminum	0.95%	2.75%	0.85%	1.65%
3/39	Windows and Doors: Plastic	2.55%	1.75%	2.31%	1.20%
3/40	Ironmongery	1.28%	0.20%	1.07%	0.90%
3/41	Glazing	2.02%	0.05%	1.74%	1.51%
3/42	Finishes: Screeds	1.85%	1.00%	0.80%	0.75%
3/43	Finishes: Bitumen, Resin and Rubber Latex Flooring	0.06%	0.03%	0.43%	0.50%
3/44	Finishes: Plaster	3.39%	1.75%	3.48%	2.37%
3/45	Finishes: Rigid Tiles and Terrazzo Work	1.31%	0.75%	0.43%	1.05%
3/46	Finishes: Flexible Tiles and Sheet Coverings	2.32%	1.40%	2.03%	1.92%
3/47	Finishes: Carpets	1.25%	0.85%	1.37%	1.05%
3/48	Finishes: Painting and Decorating	2.87%	4.00%	5.68%	6.05%

3/49	Sanitary Appliances	3.69%	1.40%	2.62%	1.79%
3/50	Insulation	1.32%	0.30%	1.31%	0.75%
3/51	Pavings: Coated Macadam and Asphalt	0.32%	1.30%	0.47%	1.20%
3/52	Pavings: Slab and Block	1.00%	1.40%	0.36%	0.75%
3/53	Site Planting	0.00%	0.40%	0.00%	0.60%
3/54	Fencing	1.45%	0.50%	1.03%	0.60%
3/55	Pipes and Accessories: Spun and Cast Iron	0.81%	0.75%	0.61%	0.75%
3/56	Pipes and Accessories: Steel	0.39%	0.30%	0.33%	0.45%
3/57	Pipes and Accessories: Plastics	2.32%	0.60%	1.44%	1.17%
3/58	Pipes and Accessories: Copper	2.16%	0.80%	1.72%	1.03%
3/59	Pipes and Accessories: Aluminium	0.58%	2.00%	0.20%	0.37%
3/60	Pipes and Accessories: Clay and Concrete	2.04%	1.80%	0.91%	1.03%
3/S1	Structural Steelwork – Labour	0.00%	1.00%	0.00%	0.56%
3/S2	Structural Steelwork – Materials: Building Work	0.32%	1.00%	0.07%	0.42%
3/S3	Structural Steelwork – Materials: Civil Engineering Work	0.00%	3.00%	0.00%	0.56%
Building	Labour	0.00%	0.00%	14.82%	12.18%
Plumbing	Labour	0.00%	0.00%	3.17%	2.12%

Weights applied to PAFI Civil Engineering 1990 Series and Specialist Engineering Series 3 to produce FOCOS

PAFI Civil Engineering 1990 Series and Specialist Engineering Series 3 - base weights
(June 1990 = 100)

Code	Name	FOCOS
90/1	Labour and Supervision	20.7%
90/2	Plant and Road Vehicles	15.7%
90/3	Aggregates	4.7%
90/4	Bricks and Clay Products	3.3%
90/5	Cements	2.7%
90/6	Ready Mixed Concrete	4.7%
90/7	Cast and Spun Iron Products	1.3%
90/8	Plastics Products	1.3%
90/9	Coated Macadam and Bituminous Products	17.3%
90/10	DERV Fuel	3.0%
90/11	Gas Oil Fuel	1.0%
90/12	Timber	2.0%
90/13	Steel for Reinforcement	4.7%
90/14	Metal Sections	3.0%
90/15	Sheet Steel Piling	1.3%
3/S1	Structural Steelwork – Labour	2.3%
3/S3	Structural Steelwork – Materials: Civil Engineering Work	4.3%
3/L1	Lift – Mechanical Engineering Labour	1.5%
3/L2	Lift – Mechanical Engineering Materials	2.2%
3/L3	Lift – Electrical Engineering Materials	1.8%
3/L4	Lift – Electrical Engineering Labour	1.2%

Price Adjustment Formulae Indices

The PAFI are published in three groupings:

- Building series which is made up of 61 work category indices, which include both labour and materials inputs and four resource indices, which include either materials or labour inputs.
- Civil engineering series made up of 16 resource cost indices.
- Specialist engineering series made up of 17 resource cost indices.

Work Category indices in the Building series are compiled as a weighted average of labour, plant and materials indices, see example below. The component labour and plant indices are also published separately. For the Specialist Engineering Formulae, separate labour and materials indices are published.

The labour elements are derived from promulgated wage rates from various wage-fixing bodies; materials indices are based upon PPIs compiled by ONS (as well as other additional bespoke materials indices compiled by BCIS), and plant indices are calculated using both labour and materials indices.

The materials content of the PAFI are, in the main, based on ONS PPIs. PPIs measure the price of goods bought and sold by UK manufacturers.

BCIS produces the following series for use in compiling PAFI to supplement the PPIs:

- reinforcing steel bar (rebar)
- steel mesh reinforcement
- steel sections
- hollow steel sections
- stainless steel
- aluminium
- zinc
- copper
- lead
- grass seed
- trees and shrubs

Example Compilation and Constituents of a Building Work Category Index Compilation

The Work Category Indices are compiled from labour, plant and materials indices as required, incorporating price levels current at the following dates:

- Labour: The 15th day of the month to which the Index number refers.
- Plant: The month to which the Index number refers.
- Materials: The month preceding that to which the Index number refers.

Constituents

The composition and base weightings are given in the table below.

WORK CATEGORY 3/01	DEMOLITIONS RESOURCE	BASE WEIGH*
		%
	Labour: building	51
	Plant	43
	Steel shoring	4
	Timber	2
	TOTAL	100%

Base year

The indices are currently set at 100 at the base year of 2015 and are rebased every five years in line with other government statistics.

Further information

Enquiries about the indices should be addressed to BCIS: contactbcis@bcis.co.uk.

The responsible statistician at the Department for Business and is Frances Pottier. She can be contacted at Frances.Pottier@beis.gov.uk.

The Resource Cost Indices (formerly DBT) are published by BCIS in its [Public Sector Price and Cost Indices online service](#).

The Price Adjustment Formulae Indices (PAFI) are published by BCIS in its [Price Adjustment Formulae Indices \(PAFI\) online service](#).

Construction Output Price Indices are now published by the Office for National Statistics. They can be contacted at construction@ons.gsi.gov.uk.

Glossary

Cost: The cost paid by a contractor or other purchaser to a manufacturer.
Infrastructure: The RCI and CMPI for Infrastructure include maintenance.

Price: In the context of these indices 'price' is the factory gate price charged by manufacturers, it is therefore the cost paid by the contractor or other purchaser.

Price Adjustment Formulae Indices: Monthly indices used in conjunction with the Formula Methods of adjusting building, specialist engineering and civil engineering contracts to allow for changes in the costs of labour, plant and materials. They are published by the Building Cost Information Service. Further details of the indices are available at: <https://bcis.co.uk/product/price-adjustment-formulae-indices-online-pafi-bcis/>

Public Sector Price and Cost Indices: BCIS Online service containing the Resource Cost Indices previously published by DBT. Further information on the Public Sector Price and Cost Indices is available at: <https://bcis.co.uk/product/public-sector-price-and-cost-indices-bcis/>.

United Kingdom (UK): Great Britain and Northern Ireland



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