

Business Statistics Division
Manufacture – Construction Indices
and Industrial Products Section

METHODOLOGICAL NOTE ON THE REVISION
OF THE MATERIALS COST INDEX FOR THE NEW RESIDENTIAL
BUILDINGS CONSTRUCTION

Base year 2015 = 100.0

Piraeus, April 2019

Revised Material Costs Index for New Residential Buildings Construction (2015=100.0)

1. The Material Costs Index for New Residential Buildings Construction (variable 321 of Regulation 1165/98), which is calculated since 1971, is a monthly specific index of the quarterly Overall Costs Index for the Construction (variable 320 of the same Regulation). It is an input index that refers to the prices paid for materials by the constructors of new residential buildings.

2. For the calculation of the weighting coefficients of the index in base year 2015, a survey to the construction companies in 2017 was carried out, concerning the structure of construction expenditure for the years 2014-2015. However, the very limited response of the surveyed companies, which is associated with the contraction of building activity during this period, did not provide sufficient results that could be used for the representative structure of construction expenditure. Therefore, the weights for the base year 2015 were calculated on the basis of the respective indices of the previous revision (with base year 2010), in line with the rates of change in the individual indices for the period 2010-2015 and the adjustment of expenditure at the 2015 prices.

3. The prices of these materials are those which are actually paid by the construction enterprises for materials supplied at the site and do not include VAT or other taxes. Prices are collected on a monthly basis and usually refer to the middle period of the reference month.

4. About 280 commercial or industrial enterprises, supplying materials to constructors or construction enterprises are used as the reporting units. The selection of the enterprises was made in the biggest urban cities, based on their turnover and the ability to provide continuous pricing. For electricity (mainly the construction electricity), prices are collected from the Public Power Corporation, while for water; data are provided by water supplies companies.

5. The geographical coverage refers to the whole of the country, noting that prices are collected only from the biggest cities of Greece according to the census 2011 results: (Greater Athens, Thessaloniki, Patras, Herakleion, Larisa and Volos).

6. The index calculates the price changes of 91 categories of materials aggregated in 15 groups, while the total number of observations (material prices) amounted to approximately 1,512.

7. The year 2015 was used as the base year for comparing index prices. The index with the new weights and base year 2015=100.0 is being calculated since March 2019. Base prices for every material were calculated by division of the current prices of January 2019 with the corresponding adjusted price index of January 2019 in the base year 2015.

8. To record the prices and to process and calculate the indices, we used the Integrated Information System (IIS).

9. Indices were calculated using a variation of the Laspeyres formula, as follows:

$$I^{(t)} = \sum_{i=1}^n R_i^{(t)} \cdot w_i$$

Where:

$I^{(t)}$: is the general index for the current period (month, year) t and

$R_i^{(t)}$: the individual index of the material i during the current period (month, year) t and

w_i : the corresponding weight of product i ,

$$w_i = \frac{x_i}{\sum_{i=1}^n x_i}, \quad x_i: \text{the value of the product } i \text{ in the year 2015,}$$

$i=1,2,3,\dots,n$, where n number of products.

The individual index $R_i^{(t)}$ of the material i is the simple arithmetic mean of the relevant prices of this material's varieties obtained from all reporting units, i.e.:

$$R_i^{(t)} = \frac{1}{N_i} \sum_{j=1}^{N_i} \frac{P_{ij}^{(t)}}{P_{ij}^{(0)}}$$

Where :

N_i : the count of materials varieties i from all reporting units,

$P_{ij}^{(t)}$: the price j of the material's variety i in the current period t and

$P_{ij}^{(0)}$: the average price j of the variety of the material i during base year 0, the 2015.

10. Backdated calculations for the monthly and annual material price indices in the period January 2000 - December 2018, were adjusted calculated using the individual annual index of every material in the year 2015, according to the following type:

$$R_{i(2015)}^{(t)} = R_{i(2010)}^{(t)} * \frac{100}{\bar{R}_{i(2010)}^{(2015)}}$$

Where :

$R_{i(2015)}^{(t)}$ is the individual index of material i in the current period (month, year) t with 2015 as base year,

$R_{i(2010)}^{(t)}$ is the individual index of material i in the current period (month, year) t with 2010 as base year and

$\bar{R}_{i(2010)}^{(2015)}$ is the individual annual index of material i in 2015, with 2010 as base year.

11. The tables below in Annex present the weights for base year 2015=100.0, as well as the individual annual price indices per material for the years 2010-2018 (and monthly indices for 2019-01,02), with base year 2015=100.0.

12. The methodological manual of "Short-term Business Statistics, Interpretation and guidelines", including a comprehensive set of guidelines for the compilation of STS-Short-Term Statistics, is available into:

[Methodology of short-term business statistics - Interpretation and Guidelines](#)

Tables Annex

Table 1: Weights with base year 2010=100.0 and 2015=100.0

Code	Description	Weighting Coefficients	
321	Overall Material Costs Index	(2010=100.0)	(2015=100.0)
1	Cement, mortars and ready-mixed concrete	16.81	16.25
1.1	Cement	3.11	3.15
1.2	Lime	0.74	0.73
1.3	Ready-mixed mortars	0.11	0.11
1.4	Ready-mixed concrete	11.52	10.75
1.5	Reinforcements of mortars and ready mixed concrete	1.33	1.51
2	Natural stone	1.77	1.76
2.1	Quarry gravel	0.20	0.21
2.2	Quarry sand	1.33	1.31
2.3	Pumice gravel	0.09	0.09
2.4	Sea sand	0.15	0.15
3	Marble products, granites	3.96	4.02
3.1	Marble slabs	2.51	2.55
3.2	Ground marble	0.66	0.66
3.3	Granites	0.79	0.81
4	Artificial stone	4.67	5.18
4.1	Bricks	2.78	3.27
4.2	Roof tiles	0.30	0.35
4.3	Lightweight bricks	0.09	0.10
4.4	Breeze blocks	0.09	0.09
4.5	Concrete flags	0.56	0.59
4.6	Roof insulation slabs	0.37	0.38
4.7	Plasterboard	0.48	0.40
5	Timber and builders' carpentry	15.39	14.33
5.1	Builders' timber	2.22	2.21
5.2	Parquet flooring	2.18	2.12
5.3	Windows	4.29	3.73
5.4	Internal doors	3.29	3.05
5.5	Wall cupboards	1.95	1.82
5.6	Cupboards	1.46	1.40
6	Basic metals	24.78	24.85
6.1	Steel reinforcing rods	12.96	13.34
6.2	Steel railings	0.62	0.57
6.3	Aluminium railings	0.84	0.78
6.4	Security gates and doors	1.38	1.32
6.5	Aluminium door and window frames	7.17	7.06
6.6	Garage doors	1.17	1.16
6.7	Stainless railings	0.64	0.62
7	Plumbing and heating equipment and supplies	9.29	9.92

7.1	Copper pipes	2.50	2.63
7.2	Steel pipes	0.11	0.11
7.3	Plastic pipes	0.93	1.12
7.4	Circulating pumps	0.17	0.18
7.5	Oil-fired central heating burners	0.33	0.35
7.6	Boilers	0.50	0.51
7.7	Central heating radiators	2.29	2.36
7.8	Seepage pits	0.03	0.03
7.9	Drain traps	0.03	0.03
7.10	Washbasins	0.33	0.34
7.11	Oil tanks	0.16	0.17
7.12	Brass taps	0.07	0.07
7.13	Brass stopcocks	0.13	0.14
7.14	Solar Heaters	0.14	0.13
7.15	Heat pump package units	1.57	1.75
8	Door and window fittings	2.03	2.01
8.1	Sliding door mechanisms	0.10	0.10
8.2	Garage door mechanisms	1.23	1.18
8.3	Locks in general	0.43	0.45
8.4	Door handles	0.27	0.28
9	Electrical equipment	4.74	4.79
9.1	Extractor fans	0.05	0.05
9.2	Plastic tubes	0.85	0.89
9.3	Cupreous Pipes	2.45	2.40
9.4	Switches	0.55	0.59
9.5	Power points	0.22	0.23
9.6	Panels	0.44	0.45
9.7	Entrance video	0.07	0.07
9.8	System of central aerial of television	0.11	0.11
10	Glass sheets	3.25	3.24
10.1	Plain glass	0.68	0.68
10.2	Safety glass	1.48	1.47
10.3	Mirrors	0.18	0.18
10.4	Glass bricks	0.01	0.01
10.5	Energy glass	0.90	0.90
11	Paints and varnishes	2.75	2.86
11.1	Emulsion paints	2.34	2.44
11.2	Enamel paints	0.05	0.05
11.3	Varnishes	0.05	0.05
11.4	Undercoats	0.25	0.26
11.5	Red lead	0.03	0.03
11.6	Resolvents of colours	0.03	0.03
12	Floor and wall tiles and sanitary ware	4.7	4.79
12.1	Floor and wall tiles generally	2.43	2.50
12.2	Washbasins	0.38	0.38
12.3	Toilet bowls	0.31	0.31
12.4	Bathroom suites	0.15	0.15
12.5	Sink mixer taps	0.12	0.12
12.6	Washbasin mixer taps	0.12	0.12
12.7	Bath mixer taps	0.14	0.14
12.8	Baths	0.92	0.94
12.9	Showers	0.13	0.13

13	Insulating materials	1.33	1.38
13.1	Bituminous emulsion	0.02	0.02
13.2	Cork-based insulating materials	0.06	0.07
13.3	Fibreglass	0.03	0.03
13.4	Expanded polystyrene	0.40	0.41
13.5	Tar-cloth	0.23	0.24
13.6	Pumice concrete	0.50	0.52
13.7	Sandwich insulators	0.06	0.06
13.8	Spreaded driers	0.03	0.03
14	Lifts	2.91	2.68
14.1	Lifts	2.91	2.68
15	Fuel for mechanical excavators and other building machinery	1.62	1.94
15.1	Diesel fuel	0.77	0.73
15.2	Electric energy	0.61	0.96
15.3	Water	0.24	0.25

Table 2: Individual annual indices per material for the years 2010-2018 and the monthly 2019-01, 02 with base year 2015=100.0

Code	Description	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019-01	2019-02
321	Overall Material Costs Index	103.3	105.9	106.5	104.9	102.0	100.0	98.3	98.6	99.5	99.4	99.7
1	Cement and ready-mixed concrete	106.8	107.0	106.5	104.6	101.8	100.0	98.1	98.7	98.9	98.9	99.0
1.1	Cement	102.0	102.3	102.5	102.0	100.9	100.0	99.1	100.7	99.9	100.0	100.0
1.2	Lime	104.5	105.3	106.1	105.7	103.6	100.0	97.3	96.7	95.9	96.1	96.2
1.3	Ready-mixed mortars	103.2	102.3	102.3	102.7	101.7	100.0	99.6	100.2	101.7	101.8	101.8
1.4	Ready-mixed concrete	110.7	110.6	109.5	106.4	102.3	100.0	97.6	98.0	98.6	98.6	98.8
1.5	Reinforcements of mortars and ready mixed concrete	91.2	92.5	94.3	96.7	99.4	100.0	99.4	99.8	99.5	99.3	99.3
2	Natural stone	104.1	104.6	103.4	102.4	100.9	100.0	99.8	99.8	98.4	97.9	97.9
2.1	Quarry gravel	98.3	100.3	99.5	99.7	99.5	100.0	99.3	100.7	99.4	99.5	99.5
2.2	Quarry sand	104.6	104.9	103.6	102.6	101.0	100.0	99.9	99.8	98.3	97.7	97.7
2.3	Pumice gravel	109.0	109.0	106.1	103.7	100.7	100.0	99.9	100.4	98.5	98.5	98.5
2.4	Sea sand	104.5	105.4	105.4	103.8	102.3	100.0	99.3	98.9	98.0	97.1	97.1
3	Marble products	101.9	102.1	103.3	103.1	100.6	100.0	99.6	99.4	99.1	99.0	99.0
3.1	Marble slabs	101.9	102.1	103.8	103.5	100.7	100.0	99.6	99.4	99.4	99.3	99.3
3.2	Ground marble	103.1	103.7	102.7	102.2	100.9	100.0	99.5	98.5	96.8	96.4	96.4
3.3	Granites	101.3	101.1	102.2	102.5	100.1	100.0	99.9	100.1	100.1	100.1	100.1
4	Artificial stone	93.2	95.3	96.1	98.0	98.3	100.0	99.1	99.4	99.9	100.7	100.7
4.1	Bricks	87.9	90.6	91.3	94.9	96.6	100.0	99.0	99.6	100.3	101.4	101.4
4.2	Roof tiles	88.7	90.3	93.5	96.3	100.1	100.0	99.8	100.1	101.2	101.9	101.9
4.3	Lightweight bricks	94.1	94.6	94.9	95.6	99.5	100.0	99.3	98.6	97.9	98.0	98.0
4.4	Breeze blocks	99.3	100.5	101.8	101.1	99.4	100.0	99.8	100.6	100.2	100.1	100.1
4.5	Concrete flags	98.3	101.0	102.5	101.2	100.1	100.0	99.9	99.9	100.2	100.8	101.0
4.6	Roof insulation slabs	101.1	101.7	103.6	102.9	101.4	100.0	98.9	98.8	98.8	99.0	99.0

4.7	Plasterboard	124.5	120.6	118.9	115.4	104.7	100.0	98.9	97.6	97.2	96.5	96.5
5	Timber and builders' carpentry	110.9	111.5	110.1	108.0	103.3	100.0	98.6	97.8	97.9	97.7	97.7
5.1	Builders' timber	103.9	106.8	107.5	106.3	102.5	100.0	99.4	99.1	99.6	99.8	99.9
5.2	Parquet flooring	106.4	107.1	106.6	104.9	101.8	100.0	99.7	99.8	100.7	100.9	101.1
5.3	Windows	118.6	118.7	115.8	112.3	105.6	100.0	97.7	95.9	95.6	95.4	95.4
5.4	Internal doors	111.3	111.3	109.5	107.6	102.8	100.0	98.7	97.8	97.4	97.0	97.0
5.5	Wall cupboards	111.0	110.9	109.7	107.5	103.2	100.0	98.1	97.8	97.6	97.3	97.3
5.6	Cupboards	107.4	107.6	106.7	105.3	102.1	100.0	98.8	98.2	98.0	97.6	97.6
6	Basic metals	103.0	107.8	109.3	106.2	103.0	100.0	97.7	97.4	99.7	98.9	99.4
6.1	Steel reinforcing rods	100.3	108.3	111.3	107.6	103.9	100.0	96.6	96.7	101.4	99.7	100.6
6.2	Steel railings	113.0	112.4	112.5	109.2	103.5	100.0	97.9	98.0	98.0	98.4	98.8
6.3	Aluminium railings	110.5	110.5	109.4	106.7	104.0	100.0	98.8	98.7	98.6	99.5	99.5
6.4	Security gates and doors	108.1	108.7	107.3	105.3	102.5	100.0	99.2	98.6	98.4	98.4	98.4
6.5	Aluminium door and window frames	105.0	105.9	105.6	104.0	101.5	100.0	99.2	98.4	97.5	97.7	97.7
6.6	Garage doors	104.6	103.7	104.0	103.7	102.0	100.0	98.5	98.5	98.7	98.9	98.9
6.7	Stainless railings	106.0	105.5	103.9	101.6	100.8	100.0	97.9	96.9	96.4	97.0	97.0
7	Plumbing and heating equipment and supplies	96.7	103.0	106.3	105.4	102.2	100.0	97.5	100.4	101.7	102.6	103.0
7.1	Copper pipes	98.2	113.2	120.0	115.2	105.1	100.0	92.4	103.0	106.0	109.6	110.9
7.2	Steel pipes	99.3	101.4	103.8	103.3	101.8	100.0	99.8	103.3	109.6	109.9	109.7
7.3	Plastic pipes	85.7	91.3	97.8	101.5	101.3	100.0	97.5	96.4	96.2	95.7	95.7
7.4	Circulating pumps	96.7	99.5	103.5	105.0	103.4	100.0	98.8	99.0	99.7	100.1	99.9
7.5	Oil-fired central heating burners	98.1	99.2	100.5	101.2	101.7	100.0	99.0	99.1	99.6	99.2	99.2
7.6	Boilers	101.5	102.5	103.7	103.7	102.0	100.0	98.3	98.2	98.4	98.5	98.5
7.7	Central heating radiators	100.3	101.5	101.3	101.1	100.7	100.0	100.4	101.0	102.3	102.4	102.4
7.8	Seepage pits	108.2	109.4	109.6	109.1	103.1	100.0	99.8	99.4	100.7	100.7	100.7
7.9	Drain traps	101.8	102.8	102.5	102.3	101.5	100.0	100.1	99.9	98.9	99.1	99.1
7.10	Washbasins	101.0	103.2	102.8	101.4	101.0	100.0	99.6	100.0	100.2	100.8	100.8
7.11	Oil tanks	99.4	99.6	99.8	101.1	101.1	100.0	100.5	100.0	100.0	99.9	99.9
7.12	Brass taps	96.8	100.6	102.8	101.6	100.4	100.0	98.0	99.1	101.3	102.2	102.4
7.13	Brass stopcocks	95.2	100.5	102.2	101.6	100.6	100.0	99.2	100.2	103.6	104.4	104.4
7.14	Solar Heaters	107.8	107.5	106.1	103.7	101.9	100.0	97.7	97.5	96.9	95.8	95.8
7.15	Heat pump package units	0.0	0.0	0.0	102.3	101.2	100.0	99.7	99.7	99.5	99.5	99.5
8	Door and window fittings	104.6	104.1	103.8	103.2	101.1	100.0	99.8	99.7	99.9	100.4	100.4
8.1	Sliding door mechanisms	102.2	103.0	102.1	101.6	100.7	100.0	99.8	99.3	99.1	99.3	99.3
8.2	Garage door mechanisms	108.0	106.9	106.4	105.1	101.7	100.0	99.4	99.2	99.4	100.1	100.1
8.3	Locks in general	98.9	99.2	99.6	100.7	100.1	100.0	100.7	101.1	101.2	101.5	101.5
8.4	Door handles	100.4	100.4	100.4	100.1	100.4	100.0	99.8	99.6	99.7	100.0	100.0
9	Electrical equipment	102.2	110.2	110.7	106.7	100.5	100.0	97.6	98.9	99.8	100.3	100.7
9.1	Extractor fans	99.5	101.7	103.1	102.9	100.6	100.0	99.8	100.8	100.9	101.1	101.1
9.2	Plastic tubes	99.1	104.1	105.8	104.5	100.9	100.0	98.1	96.8	96.2	96.5	96.5
9.3	Cupreous Pipes	105.3	118.2	116.8	110.0	100.0	100.0	96.5	99.2	100.8	101.4	102.0
9.4	Switches	96.7	99.3	104.5	103.1	101.3	100.0	99.2	100.4	101.3	101.8	102.2
9.5	Power points	98.3	100.4	103.8	102.9	100.6	100.0	99.0	100.0	101.1	102.0	102.4
9.6	Panels	100.2	101.7	102.8	101.3	100.3	100.0	99.4	99.4	99.6	100.2	100.2
9.7	Entrance video	110.2	109.0	107.9	107.3	102.5	100.0	98.6	98.0	97.2	97.1	97.1
9.8	System of central aerial of television	102.6	102.9	104.1	104.7	101.9	100.0	98.1	97.8	98.1	98.8	98.8
10	Glass sheets	103.5	103.2	103.6	103.5	101.3	100.0	99.6	99.9	100.5	100.5	100.5

10.1	Plain glass	103.1	103.0	103.6	103.4	101.1	100.0	99.7	99.7	101.0	101.0	101.0
10.2	Safety glass	103.8	103.4	103.7	103.6	100.9	100.0	100.1	100.4	100.7	100.5	100.5
10.3	Mirrors	104.1	104.1	104.5	104.2	101.5	100.0	99.6	99.8	101.4	101.7	101.7
10.4	Glass bricks	100.4	101.1	101.1	101.4	100.6	100.0	99.7	99.2	99.6	99.2	99.2
10.5	Energy glass	0.0	0.0	0.0	103.4	102.1	100.0	98.9	99.2	99.8	99.7	99.7
11	Paints and varnishes	99.1	100.1	101.0	101.1	100.5	100.0	99.6	99.3	100.6	100.9	100.9
11.1	Emulsion paints	99.2	100.3	101.3	101.3	100.6	100.0	99.5	99.3	100.6	100.9	100.9
11.2	Enamel paints	99.5	100.0	101.0	101.0	99.6	100.0	100.0	100.0	100.7	100.9	100.9
11.3	Varnishes	98.6	98.9	98.8	98.7	99.0	100.0	100.1	99.7	100.4	100.5	100.5
11.4	Undercoats	98.9	99.3	99.9	100.1	100.1	100.0	100.0	100.0	100.8	101.1	101.1
11.5	Red lead	92.3	92.7	94.0	97.1	98.3	100.0	100.1	99.7	101.1	101.7	101.7
11.6	Resolvents of colours	93.7	93.5	94.4	98.7	99.9	100.0	98.0	96.5	97.5	97.2	97.2
12	Floor and wall tiles and sanitary ware	101.3	101.8	102.7	102.5	101.8	100.0	98.2	97.7	98.2	98.2	98.2
12.1	Floor and wall tiles generally	100.5	100.9	102.2	102.3	102.3	100.0	97.5	96.5	97.1	97.3	97.3
12.2	Washbasins	103.7	104.3	105.1	104.4	102.3	100.0	99.1	99.1	99.4	99.4	99.4
12.3	Toilet bowls	101.7	102.4	103.9	103.8	102.5	100.0	99.0	99.1	99.0	98.5	98.2
12.4	Bathroom suites	105.3	105.3	104.5	103.9	101.8	100.0	99.8	100.6	101.2	100.8	100.8
12.5	Sink mixer taps	102.9	103.8	104.0	103.3	100.5	100.0	100.2	100.4	100.6	100.6	100.6
12.6	Washbasin mixer taps	103.8	104.8	105.0	104.4	101.3	100.0	99.4	99.6	100.1	100.5	100.5
12.7	Bath mixer taps	104.3	105.2	104.6	103.9	101.2	100.0	99.5	99.6	100.1	99.8	99.8
12.8	Baths	100.6	101.0	101.2	100.9	100.5	100.0	98.6	98.2	98.8	98.7	98.7
12.9	Showers	103.3	104.6	105.5	104.9	102.1	100.0	98.3	98.4	98.5	98.8	98.8
13	Insulating materials	99.7	100.5	101.5	101.7	100.9	100.0	99.0	99.4	100.1	100.1	100.1
13.1	Bituminous emulsion	94.2	99.9	102.2	103.7	101.0	100.0	100.0	100.4	100.3	99.0	99.0
13.2	Cork-based insulating materials	93.8	95.1	97.3	100.6	100.7	100.0	99.9	101.4	103.1	103.4	103.4
13.3	Fibreglass	100.3	101.8	102.1	102.7	102.9	100.0	98.4	99.8	101.7	102.0	102.0
13.4	Expanded polystyrene	101.7	102.8	103.8	103.6	101.9	100.0	97.1	97.9	99.0	99.0	99.0
13.5	Tar-cloth	97.6	99.0	100.2	100.2	100.6	100.0	99.6	100.5	101.1	101.2	101.2
13.6	Pumice concrete	100.3	100.3	100.9	100.7	100.1	100.0	100.0	100.0	100.0	100.0	100.0
13.7	Sandwich insulators	98.7	100.4	101.2	104.2	101.5	100.0	98.7	98.1	98.3	98.7	98.7
13.8	Spreaded driers	97.7	98.9	100.6	101.5	100.6	100.0	99.7	100.0	101.7	101.4	101.4
14	Lifts	112.3	112.1	109.9	106.7	101.9	100.0	98.5	98.2	98.2	98.3	98.6
14.1	Lifts	112.3	112.1	109.9	106.7	101.9	100.0	98.5	98.2	98.2	98.3	98.6
15	Fuel for mechanical excavators and other building machinery	86.1	94.7	101.6	103.0	104.9	100.0	95.8	101.4	104.7	103.1	104.2
15.1	Diesel fuel	108.7	127.5	132.0	120.0	115.5	100.0	90.8	106.3	117.8	113.1	116.0
15.2	Electric energy	65.7	68.7	78.9	90.7	97.9	100.0	98.6	98.0	95.9	95.9	95.9
15.3	Water	98.0	98.7	100.1	100.1	100.3	100.0	100.1	100.1	100.4	101.1	101.2