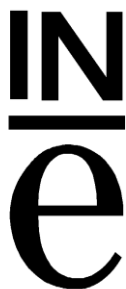


INSTITUTO NACIONAL DE ESTADISTICA



## **Indices of prices used in the revisions of the contracts with the Public Administrations**

**Subdirectorato General for Short-Term  
Statistics and Prices**

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# 1. Introduction

All of the aspects related to the indices used in the revisions of the prices of the contracts with the Public Administrations, including their compilation methodology, are approved by the Higher Committee on the Prices of State Contracts (CSP), within the Consulting Board for Administrative Contracts. The CSP is in charge of proposing to the Delegated Commission of the Government for Economic Affairs, for approval, the corresponding price indices, which in addition, must be published in the BOE in order to be officially valid.

Within the indices used in the revisions of the prices of the contracts, three large groups can be distinguished:

- The National Workforce Index.
- The Construction Materials Price Indices.
- The Price Indices for Textile and Footwear Materials.

The purpose of these National Workforce Indices and Material Price Indices is to provide information necessary to applying price revision formulae of a general nature for Public Administration works contracts and manufacturing supply contracts, as provided for in Royal Decree 1359/2011, of 7 October, whereby the list of basic materials and price revision formulae of a general nature for works contracts and manufacturing supply contracts for Public Administration weaponry and equipment is approved.

The results of these statistics can be found on the INE website (<http://www.ine.es/jaxi/menu.do?type=pcaxis&path=%2Ft07%2Fp062&file=inebase&L=1>).

These statistics are published quarterly, and contain information on monthly indices

## 2. The National Workforce Index

This began to be published on a monthly basis in July 1980, the month taken as the basis for comparison. It was established by Law 46/1980, of 1 October, regarding the limitation of given income, and whose second section article states as follows: "*regarding the workforce index, it will reflect, on a monthly basis, 85% of the percentage variation experienced by the general national index of the Consumer Price Index System compiled by the National Statistics Institute*".

The objective of this law was to unify the indices geographically, and it occurred this way with the workforce index. Prior to this, and as of January 1964, the monthly workforce indices were published for each province. With this law, beginning in July 1980, the national workforce index began to be published, and was a single index for the entire country, coexisting with the provincial indices until December 1985.

## 3. The Construction Materials Price Indices

These indices have January 1964=100 as the basis, and are published monthly for two different geographical areas: the Mainland and Illes Balears on the one hand, and Islas Canarias on the other. For each one of these two zones, indices of the following groups are calculated:

- Cement
- Ceramics
- Wood
- Energy
- Copper
- Steel
- Aluminium
- Binders

The indices for these eight groups, together with the National Workforce Index, constitute the components involved in the rate formulae for the revision of prices of Public Administration contracts.

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### 3.1 Mainland and Illes Balears

Since reference month January 1964, and with base 100 in said month, the monthly prices of construction materials have been published in the BOE for the Mainland and Illes Balears for the eight groups mentioned above.

It must be highlighted that the obtaining of the indices for each one of these groups is independent of that of the remaining groups. Thus, each one of them has its own methodology for the calculation of the aggregated index (its weighting scheme, its basket of representative products, etc.), although they are all fixed-base Laspeyres indices.

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#### 3.1.1 INDICES FOR THE CEMENT, CERAMICS AND WOOD GROUPS

The information for compiling the indices for the cement, ceramics and wood and copper groups is obtained using the survey known as the "Survey for the compilation of the Construction Materials Price Indices", whose price data for each product selected is collected monthly by the INE, researching approximately 800 respondent units (manufacturers, wholesalers and retailers).

The price observed in this survey is that existing on the 3rd day of each month, or that immediately prior in the case of such day being a holiday, and not including the VAT invoiced by the vendor to the client.

The products or item on which prices are requested appear clearly specified in the questionnaire (dimensions, qualities, etc.) for the purpose of always observing the same model over time, and for all respondents.

For each product and for each respondent unit, a basic index is calculated (quotient between the current price and the base price). With these basic indices, the aggregated index of the product or item in question is calculated. Thus:

- In the case of the cement group, the calculation of the index for each product is carried out using a weighted arithmetic average of the simple index of the respondent.
- In the case of ceramics, in order to calculate the index for an item, the weighted arithmetic average of the indices for each province are used. the latter is used as the simple arithmetic average of the basic indices.
- In the case of wood, the index for each product is obtained as the simple arithmetic average of the basic indices from each respondent.

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### 3.1.2 INDICES FOR THE ENERGY GROUP

For the Energy Group, the information for obtaining the index for each one of its products comes from different sources:

- **Electrical energy:** using the electrical fees published in the BOE.
- **Explosives (bulk ANFO and "goma 2 E-C" dynamite):** using the information obtained in the "Survey for the compilation of the Construction Materials Price Indices".
- **Road gasoil:** using the data obtained from the Consumer Price Index (CPI) compiled by the National Statistics Institute (INE).
- **Industrial fuel-oil:** In the CSP meeting held 15 July 2003, the following was passed: "the adaptation of the energy group from the January 2003 index, due to the disappearance of heaving fuel-oils No. 1 and No. 2".

Pursuant to RD 287/2001 (BOE of 28 March 2001), as of January 2003, heavy fuel-oils numbers 1 and 2 ceased to be manufactured, and were replaced by the fuel-oil with a sulphur content of  $\leq 1\%$ . Due to this and to the agreement adopted in the "Working Group of the new polynomial formulae" (2003), consisting of replacing the data that was provided by the Ministry of Development (fuel-oils and binders) with series from the Industrial Price Index (IPRI), base 2000, it was agreed in the CSP to replace, in the energy group of January 2003 and subsequently, the three products relating to fuel-oils, which appeared prior to January 2003, by a single item known as "fuel-oil with a sulphur content of  $\leq 1\%$ ", and whose weighting would be the sum of the weightings of the three replaced items. The index for this product would be obtained from the product of the IPRI, base 2000, with the same name.

As of January 2009, and following the base change of the IPRI, the industrial fuel-oil index is obtained as the product of the IPRI, base 2005, known as "fuel with sulphur  $\leq 1\%$ ".

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### 3.1.3 INDEX FOR THE COPPER GROUP

According to the CSP agreement, the index for the copper group is obtained, as of January 2011, from the Industrial Price Index (IPRI), base 2005, more specifically from the index for the following branch: "24.44 Copper production".

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### 3.1.4 INDICES FOR THE STEEL AND ALUMINIUM GROUPS

By agreement of the CSP, the indices for the steel group, as of 1993, and of the aluminium group, as of 1995, were obtained by using a basket of products selected for each group, and whose indices were taken from the Industrial Price Index (IPRI), base 1990, published by the INE.

Beginning with reference month January 2003, the Industrial Price Indices ceased to be published in base 1990, and went on to be published in base 2000, which lead to the need to proceed to adapting the indices for the products selected in the steel and aluminium groups to the new base of the IPRI.

Subsequently, the base change of the IPRI to the year 2005 made it once again necessary to adapt the products from the steel and aluminium groups to the new index base, as of the month of January 2009.

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### 3.1.5 INDICES FOR THE BINDER GROUP

In the session held 19 December 2003, the CSP passed the adaptation of the Binder Group, using the Index referring to the month of July 2003, proceeding to the replacement of the indices that up until reference month June 2003 was provided by the Ministry of Development, by others obtained from the IPRI, base 2000.

With this adaptation, the INE proceeded to comply with the agreement adopted by the "Working Group of the new polynomial formulae" (2003), by using the series of the IPRI, base 2000, to replace the information that had been provided by the Ministry of Development for the Construction Materials Price Indices. This information was that regarding the heavy fuel-oils included within the Energy Group, whose adaptation was passed in the CSP session held 15 July 2003 as mentioned previously, and regarding the Binder Group, both for the Mainland and Illes Balears and for Islas Canarias.

As a result of this adaptation, the index for the Binder Group is obtained using the index for the product known as "oil bitumen" obtained from the IPRI, base 2000, up until December 2008, and from the IPRI, base 2005, as of January 2009.

### 3.1.6 GENERAL INDEX AND WEIGHTINGS

The **general index for each one of the eight groups** for the Mainland and Illes Balears is calculated as the weighted arithmetic average for the indices of the products comprising it, as follows:

$$I_G^t = \sum_{i=1}^p \frac{I_i^t \cdot w_i}{100}$$

where:

$I_G^t$  = index for group  $G$  in  $t$ .

$I_i^t$  = index for product  $i$  belonging to group  $G$  in  $t$ .

$w_i$  = weighting as a % of product  $i$  within group  $G$  with  $\sum_{i=1}^p w_i = 100$

$p$  = number of products integrating group  $G$ .

The following presents, for each one of the groups, the products that comprise them and their weightings:

	Weightings as a %
<b>Cement Group</b>	
Cement II - S/35A in sacks	10
Cement II - S/35A in bulk	90
<b>Ceramics Group</b>	
Ordinary solid brick	30
Simple hollow brick	40
Pressed exposed brick	10
Ceramic flooring blocks for forged ironwork	10
First quality white tile	10
<b>Wood Group</b>	
Formwork panels	11.51
Scaffold planks	11.51
Particle board	18.98
Flat doors	47.29
Mosaic parquet	10, 71
<b>Energy Group</b>	
Electrical energy	25
Explosives:	
Bulk ANFO	8
"Goma 2 E-C" dynamite	2
Road gasoil	45
Industrial BIA fuel-oil	20
<b>Copper Group</b>	
Copper	100

	<b>Weightings as a %</b>
<b>Steel Group</b>	
Heavy and light steel sections	25
Rods for concrete	30
Wire	18
Welded tubes	10
Hot rolled plates ( $\geq 3\text{mm.}$ )	7
Galvanised sheets	10
<b>Aluminium Group</b>	
1st fusion alloys	6
Copper bars, rods, profiles and sections	7 15
Drawn wire products	17
Sheet, strips, plates of alloys	6
Bars... of alloys	49
Drawn wire products of alloys	
<b>Binder Group</b>	
Oil bitumen	100

### 3.2 Islas Canarias

As with the Mainland and Illes Balears, for Islas Canarias, there was a monthly publication, with base January 1964, of the price indices of the eight previously mentioned groups. The first indices for the cement, ceramics, wood, energy and steel groups for Islas Canarias were those referring to January 1964. For the three remaining groups, copper, aluminium and binders, the first indices for this geographical scope began to be published with reference to the month of January 1983. Prior to this date, the indices for these groups were only published for the Mainland and Illes Balears.

The calculation thereof for each group is independent of the calculation of the remaining groups, each aggregate having its own methodology (weighting scheme, basket of representative products, etc.), as occurs for the Mainland and Illes Balears.

#### 3.2.1 INDICES FOR THE CEMENT, CERAMICS, WOOD AND STEEL GROUPS

In order to obtain the indices for the cement, ceramics, wood and steel groups, we also use the survey known as the "*Survey for the compilation of the Construction Materials Price Indices*", which each month studies approximately 50 respondent units (manufacturers, wholesalers, retailers, etc.) in Islas Canarias, requesting information regarding the sales prices of the products selected in each one of the groups. The characteristics of the information requested are the same as for the Mainland and Illes Balears.

The formula used for calculating the indices for each one of these four groups is the same as that used for the Mainland and Illes Balears, and is expressed as follows:



$$I_G^t = \sum_{i=1}^n \frac{I_i^t \cdot w_i}{100}$$

where

$I_G^t$  = price index for group  $G$  in  $t$ .

$I_i^t$  = price index for product  $i$  from group  $G$  in  $t$ .

$w_i$  = weighting as so much percent of product  $i$  within group  $G$ .

$$\sum_{i=1}^n w_i = 100$$

$n$  = number of products comprising group  $G$ .

The indices for the product that comprise each one of these four groups ( $I_i^t$ ) are calculated in a different way that those of the other four remaining groups (energy, copper, aluminium and binders). For the cement, ceramics, wood and steel groups, the indices for the items selected therein are calculated as follows:

1. The index for the product is obtained for the two provinces in Islas Canarias, through the use of a simple arithmetic average of the basic indices of each respondent. This would yield:

**$I_i^{tLP}$  = Price index for product  $i$  in month  $t$  in Las Palmas**

$$I_i^{tLP} = \sum_{j=1}^n \frac{I_{ij}^{tLP}}{n}$$

where

$I_{ij}^{tLP}$  = basic index for product  $i$  for respondent  $j$  in Las Palmas during month  $t$ .

$n$  = number of respondents for product  $i$  in Las Palmas during month  $t$ .

**$I_i^{tSC}$  = Price index for product  $i$  during month  $t$  in Santa Cruz de Tenerife**

$$I_i^{tSC} = \sum_{j=1}^m \frac{I_{ij}^{tSC}}{m}$$

where

$I_{ij}^{tSC}$  = basic index for product  $i$  for respondent  $j$  in Santa Cruz de Tenerife during month  $t$ .

$m$  = number of respondents for product  $i$  in Santa Cruz de Tenerife during month  $t$ .

2. The index for product  $i$  for Islas Canarias is given by the weighted arithmetic average of the indices thereof in each province, with Las Palmas having a weighting of 1.60 and Santa Cruz de Tenerife having a weighting of 1.20, both as so much per one. That is:

$$I_i^{tC} = \frac{I_i^{tLP} \cdot 1,60 + I_i^{tSC} \cdot 1,20}{2,80}$$

where

$I_i^{tC}$  = price index for product  $i$  during month  $t$  in Islas Canarias.

### 3.2.2 INDICES FOR THE ENERGY GROUP

For the Energy Group, the information for obtaining the index of each one of its products comes from different sources:

- **Electrical energy:** using the electrical fees published in the BOE.
- **Explosives (bulk ANFO and "goma 2 E-C" dynamite):** using the information obtained in the "Survey for the compilation of the Construction Materials Price Indices".
- **Road gasoil:** using the data obtained from the Consumer Price Index (CPI).
- **Industrial fuel-oil:** In the CSP meeting held 15 July 2003, the following was passed: "the adaptation of the energy group from the January 2003 index, due to the disappearance of heaving fuel-oils No. 1 and No. 2". Pursuant to RD 287/2001 (BOE of 28 March 2001), as of January 2003, heavy fuel-oils numbers 1 and 2 ceased to be manufactured, and were replaced by the fuel-oil with a 1% sulphur $\leq$  content. Due to this and to the agreement adopted by the "Working Group of the new polynomial formulae" (2003), consisting of replacing the data that had been provided by the Ministry of Development for the Industrial Price Indices (IPRI), base 2000, in the CSP it was agreed to replace, within the Energy Group and beginning in January 2003, the three types of fuel-oil that appeared prior to that date with a single item called "fuel-oil with a  $\leq$ 1% sulphur content", whose weighting would be the sum of the three replaced products. The index for this product is obtained using that corresponding to the product from the IPRI, base 2000, for Islas Canarias with the same name.

Since January 2009, and after the base change of the IPRI, the industrial fuel-oil index is obtained from the product of the IPRI, base 2005, known as "fuel sulphur  $\leq$  1%", for Islas Canarias.

The index for the Energy Group, as well as for the Aluminium, Copper and Binder Groups, is calculated as the weighted arithmetic average of the indices of the products comprising it. The index for each product selected is not calculated for the level of each one of the two provinces, but rather, a single index is calculated for the two of them.

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### 3.2.3 INDICES FOR THE ALUMINIUM AND COPPER GROUPS

The Indices for the Aluminium and Copper Groups for Islas Canarias are identical to those obtained for the Mainland and Illes Balears, and therefore, their methodology has been explained above.

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### 3.2.4 INDICES FOR THE BINDER GROUP

As mentioned previously, the CSP passed, in the session held on 19 December 2003, the adaptation of the Binder Group for Islas Canarias using the Index referring to the month of July 2003, proceeding to the replacement of the indices that, up until reference month 2003, had been provided by the Ministry of Development, with others obtained from the IPRI, base 2000.

With this adaptation, the INE proceeded to comply with the agreement adopted by the "Working Group of the new polynomial formulae" (2003), by using the series of the IPRI, base 2000, to replace the information that had been provided by the Ministry of Development for the Construction Materials Price Indices. This information was that regarding the heavy fuel-oils included within the Energy Group, whose adaptation was passed in the CSP session held 15 July 2003 as mentioned previously, and regarding the Binder Group, both for the Mainland and Illes Balears and for Islas Canarias.

As a result of this adaptation, the index for the Binder Group is obtained using the index of the product for Islas Canarias known as "oil bitumen" from the IPRI, base 2000, until December 2008, and from the IPRI, base 2005, as of January 2009.

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### 3.2.5 PRODUCTS SELECTED AND WEIGHTINGS

Regarding the products selected within each aggregate, and their corresponding weightings, we must indicate that for the wood, energy, copper, aluminium and binder groups, both (products and weightings) are identical to those from the Mainland and Illes Balears. For the three remaining groups, either the weightings change (cement), or the products and the weightings change (ceramics and steel). The following presents, for these three groups and the binder group, those products that comprise them and their weightings:

	<b>Weightings as a %</b>
<b>Cement Group</b>	
Cement II - S/35A in sacks	50
Cement II - S/35A in bulk	50
<b>Ceramics Group</b>	
Hollow concrete block	50
Granite paving tile	30
Double perforated ceramic brick	10
1st quality white tile	10
<b>Steel Group</b>	
Double normal profile T-200	30
12 mm. diameter corrugated round pipe	60
A-42-B heavy plate	10
<b>Binder Group</b>	
Oil bitumen	100

# The Price Indices for Textile and Footwear Materials

As of the month of January 1995, and with base 100 in said month, each month the price indices for the textile and footwear groups were published. Obtaining these indicators was due to Order 78/1994, of 26 July, of the Ministry of Defence, establishing the rate formulae for the revision of prices that will be applied to the acquisition contract of the individual equipment of the soldier. For each one of these price revision formulae for the textile and footwear industries, there is a series of indices (labour cost, energy cost, etc. ) including those for the respective materials (textile and footwear). Moreover, the same Order sets out that these indices must be passed by the Delegated Commission of the Government for Economic Affairs, and published in the BOE.

In the CSP session held on 27 June 1996, the methodology to follow for the compilation of these indices (textile and footwear) was passed. According to said methodology, the indices for the products selected in each one of these two groups would be obtained from the corresponding products from the IPRI, base 1990, which the National Statistics Institute published monthly.

As indicated above, beginning in reference month January 2003, the Industrial Price Indices ceased to publish in base 1990, and went on to publish in base 2000, which made it necessary to proceed to adapting the indices for the products selected in the textile and footwear groups to the new base of the IPRI. In the CSP meeting held on 15 July 2003, the adaptation of the products in the IPRI in base 1990, used in the compilation of the materials price indices, to the new base (IPRI, base 2000) was passed.

As of reference month January 2009, the Industrial Price Indices ceased to be published in base 2000, and went on to be published in base 2005, which made it necessary to proceed to the adaptation of the indices for the products selected in the textile and footwear groups to the new base of the IPRI.

The calculation formula applied for obtaining the aggregated index is a Laspeyres type formula:

$$I_G^t = \sum_{i=1}^n \frac{I_i^t \cdot w_i}{\sum w_i}$$

where

$I_G^t$  = Index for group  $G$  during month  $t$ .

$I_i^t$  = Index for product  $i$  belonging to group  $G$  during month  $t$ .

$w_i$  = weighting as so much percent of product  $i$  in the index for group  $G$ .

$$\sum w_i = 100$$

$n$  = number of products comprising group  $G$ .

The weightings of a product within each group represent the relative importance that each of them has with regard to the final cost of the footwear and the clothing in the individual equipment of the soldier.

Each one of the groups consists of the following products and weightings:

	<b>Weightings as a %</b>
<b>Textile Group</b>	
Cotton yarn	85.17
Continuous yarns and monofilaments made of polyester fibre	10.42
Worsted-type woollen yarn	4.41
<b>Footwear Group</b>	
Bovine hides and skins with a grain split for footwear	50
Rubber or plastic footwear parts: soles, heels and uppers	20
Sheets, plates, films, tapes and strips made of plastic materials (polyurethane)	10
Yarn made of synthetic staple fibres	10
Cotton yarn	10