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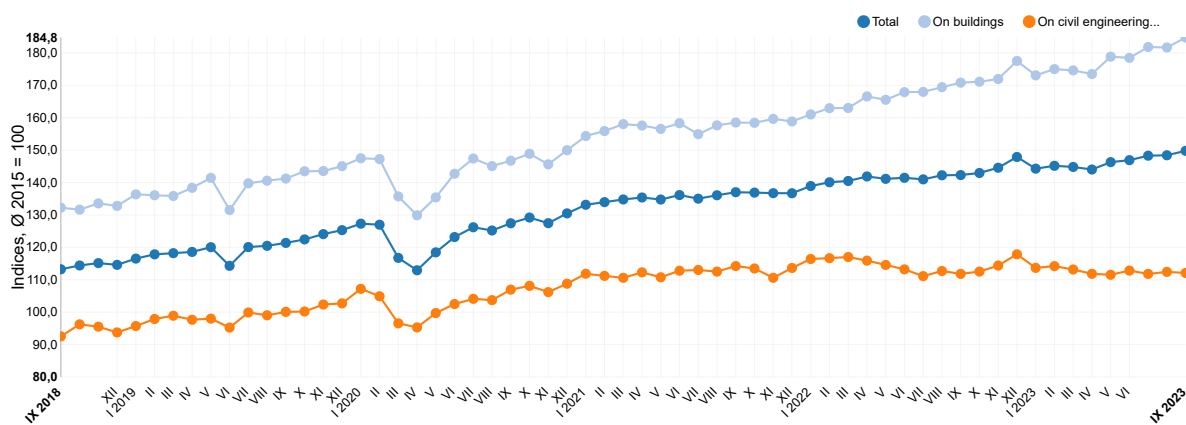


CONSTRUCTION WORK INDICES, SEPTEMBER 2023 – Provisional Data

According to working-day adjusted indices, in September 2023, as compared to September 2022, the volume of construction works increased by 5.3%.

According to seasonally and working-day adjusted indices, in September 2023, as compared to August 2023, the volume of construction works increased by 0.9%.

G-1 VOLUME INDICES OF CONSTRUCTION WORKS, SEASONALLY AND WORKING-DAY ADJUSTED, SEPTEMBER 2018 – SEPTEMBER 2023



I SEASONALLY AND WORKING-DAY ADJUSTED INDICATORS

1 VOLUME OF CONSTRUCTION WORKS – MONTH-ON-MONTH AND QUARTER-ON-QUARTER GROWTH RATES CALCULATED ON BASIS OF SEASONALLY AND WORKING-DAY ADJUSTED INDICES

%

	<u>VI 2023</u> V 2023	<u>VII 2023</u> VI 2023	<u>VIII 2023</u> VII 2023	<u>IX 2023</u> VIII 2023	<u>X – XII 2022</u> VII – IX 2022	<u>I – III 2023</u> X – XII 2022	<u>IV – VI 2023</u> I – III 2023	<u>VII – IX 2023</u> IV – VI 2023
Total	0,4	0,9	0,1	0,9	2,3	-0,3	0,7	2,1
On buildings	-0,2	1,9	-0,1	1,7	2,4	0,4	1,5	3,3
On civil engineering works	1,2	-0,9	0,6	-0,3	2,7	-1,1	-1,4	0,0

2 VOLUME OF CONSTRUCTION WORKS – YEAR-ON-YEAR GROWTH RATES CALCULATED ON BASIS OF WORKING-DAY ADJUSTED INDICES

96

	$\frac{VI\ 2023}{VI\ 2022}$	$\frac{VII\ 2023}{VII\ 2022}$	$\frac{VIII\ 2023}{VIII\ 2022}$	$\frac{IX\ 2023}{IX\ 2022}$	$\frac{X-XII\ 2022}{X-XII\ 2021}$	$\frac{I-III\ 2023}{I-III\ 2022}$	$\frac{IV-VI\ 2023}{IV-VI\ 2022}$	$\frac{VII-IX\ 2023}{VII-IX\ 2022}$
Total	3,8	5,1	4,1	5,3	6,1	3,6	2,9	4,9
On buildings	6,3	8,3	7,1	8,4	9,0	7,3	6,1	8,0
On civil engineering works	-0,2	0,1	-0,3	0,0	1,8	-2,2	-2,2	0,0

II GROSS, NON-ADJUSTED INDICATORS

1 VOLUME OF CONSTRUCTION WORKS – MONTHLY AND QUARTERLY GROSS INDICES

	$\frac{VI\ 2023}{VI\ 2022}$	$\frac{VII\ 2023}{VII\ 2022}$	$\frac{VIII\ 2023}{VIII\ 2022}$	$\frac{IX\ 2023}{IX\ 2022}$	$\frac{IX\ 2023}{VIII\ 2023}$	$\frac{IX\ 2023}{\emptyset\ 2022}$	$\frac{X-XII\ 2022}{X-XII\ 2021}$	$\frac{I-III\ 2023}{I-III\ 2022}$	$\frac{IV-VI\ 2023}{IV-VI\ 2022}$	$\frac{VII-IX\ 2023}{VII-IX\ 2022}$	$\frac{VII-IX\ 2023}{IV-VI\ 2023}$	$\frac{I-IX\ 2023}{I-IX\ 2022}$
Total	103,8	105,1	107,6	101,9	107,4	106,7	104,0	104,7	101,8	104,7	98,7	103,7
On buildings	106,3	108,3	110,5	105,1	109,1	110,7	106,9	108,4	105,1	107,8	98,6	107,1
On civil engineering works	99,8	100,1	103,1	96,8	104,6	100,4	99,8	98,8	96,8	99,9	98,8	98,4

III TIME SERIES OF VOLUME INDICES OF CONSTRUCTION WORKS

1 MONTHLY VOLUME INDICES OF CONSTRUCTION WORKS

Ø 2015 = 100

	Total				On buildings				On civil engineering works				
	Gross indices	Working-day adjusted indices	Seasonally and working-day adjusted indices	Trend indices	Gross indices	Working-day adjusted indices	Seasonally and working-day adjusted indices	Trend indices	Gross indices	Working-day adjusted indices	Seasonally and working-day adjusted indices	Trend indices	
2021 ¹⁾													
	IX	142,8	140,1	137,0	136,3	163,0	160,2	158,5	157,9	121,1	118,8	114,2	113,3
	X	136,7	141,9	136,9	136,7	155,4	161,1	158,4	158,4	116,6	121,1	113,5	113,7
	XI	133,8	133,8	136,7	137,3	155,7	155,7	159,6	159,1	110,4	110,4	110,6	114,2
	XII	131,0	121,6	136,7	138,0	150,2	139,9	158,9	160,0	110,3	102,3	113,6	114,9
2022 ¹⁾													
	I	128,4	131,5	138,9	138,8	153,5	156,9	161,0	161,1	101,6	104,1	116,4	115,7
	II	139,1	140,0	140,1	139,7	165,0	166,0	162,9	162,4	111,3	112,2	116,7	116,2
	III	159,4	154,0	140,5	140,5	187,4	181,3	163,0	163,8	129,3	124,9	117,0	116,1
	IV	144,2	147,2	141,9	141,0	169,9	173,3	166,6	165,1	116,6	119,1	115,9	115,6
	V	148,9	146,2	141,1	141,3	174,9	171,9	165,5	166,4	121,0	118,8	114,6	114,5
	VI	143,6	143,5	141,5	141,4	170,3	170,2	167,9	167,5	115,0	115,0	113,2	113,4
	VII	139,8	145,1	141,0	141,6	164,9	170,9	168,0	168,5	112,9	117,3	111,1	112,5
	VIII	130,8	129,6	142,2	142,0	153,8	152,4	169,4	169,4	106,2	105,2	112,7	112,2
	IX	148,3	145,6	142,3	142,6	176,4	173,2	170,8	170,4	118,3	116,1	111,8	112,3
	X	142,5	147,9	142,9	143,3	167,9	174,0	171,1	171,3	115,4	119,8	112,5	112,9
	XI	141,6	141,6	144,6	144,0	167,5	167,5	171,9	172,2	113,9	113,9	114,4	113,4
	XII	133,4	132,2	147,9	144,4	157,7	156,3	177,5	172,9	107,4	106,4	117,8	113,8
2023													
	I	137,7	136,4	144,3	144,6	170,0	168,4	173,1	173,4	103,1	102,1	113,7	113,8
	II	144,7	145,7	145,2	144,7	177,6	178,7	175,0	174,0	109,5	110,4	114,2	113,5
	III	164,4	158,8	144,8	144,9	200,7	194,2	174,6	174,8	125,4	121,1	113,2	113,0
	IV	141,1	148,8	144,0	145,3	171,0	180,0	173,5	175,9	109,0	115,0	111,8	112,6
	V	154,5	151,7	146,3	145,9	189,1	185,8	178,8	177,3	117,5	115,3	111,5	112,2
	VI	149,1	149,0	146,9	146,8	181,1	181,0	178,5	178,9	114,8	114,7	112,8	112,0
	VII	146,9	152,5	148,3	147,8	178,5	185,0	181,8	180,8	113,1	117,4	111,8	112,0
	VIII	140,7	134,9	148,4	148,8	169,9	163,2	181,7	182,6	109,4	104,9	112,4	112,2
	IX	151,1	153,2	149,8	149,7	185,3	187,8	184,8	184,4	114,5	116,1	112,1	112,5

1) Final data.

2 QUARTERLY VOLUME INDICES OF CONSTRUCTION WORKS

Ø 2015 = 100

	Total				On buildings				On civil engineering works				
	Gross indices	Working-day adjusted indices	Seasonally and working-day adjusted indices	Trend indices	Gross indices	Working-day adjusted indices	Seasonally and working-day adjusted indices	Trend indices	Gross indices	Working-day adjusted indices	Seasonally and working-day adjusted indices	Trend indices	
2021 ¹⁾													
	x - XII	133,8	132,4	136,8	137,3	153,8	152,2	159,0	159,2	112,5	111,3	112,6	114,3
2022 ¹⁾													
	I - III	142,3	141,8	139,8	139,7	168,6	168,1	162,3	162,4	114,1	113,7	116,7	116,0
	IV - VI	145,5	145,6	141,5	141,3	171,7	171,8	166,7	166,3	117,5	117,6	114,6	114,5
	VII - IX	139,6	140,1	141,8	142,1	165,0	165,5	169,4	169,4	112,5	112,8	111,9	112,4
	x - XII	139,2	140,6	145,1	143,9	164,4	165,9	173,5	172,1	112,2	113,3	114,9	113,4
2023													
	I - III	148,9	147,0	144,7	144,7	182,8	180,4	174,2	174,1	112,7	111,2	113,7	113,5
	IV - VI	148,2	149,8	145,7	146,0	180,4	182,3	176,9	177,4	113,7	115,0	112,1	112,3
	VII - IX	146,2	146,9	148,8	148,8	177,9	178,7	182,7	182,6	112,3	112,8	112,1	112,2

1) Final data.

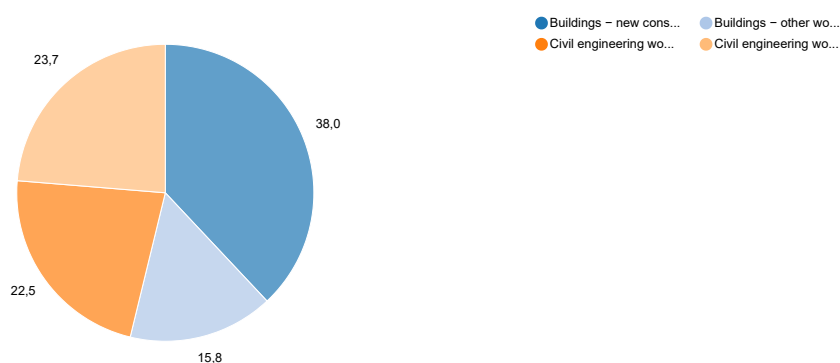
IV COMPOSITION OF HOURS WORKED ON SITES, BY TYPES OF CONSTRUCTIONS AND TYPES OF WORKS

%

	IX 2023			I – IX 2023		
	Total	New constructions	Other works ¹⁾	Total	New constructions	Other works ¹⁾
Total	100,0	60,5	39,5	100,0	61,1	38,9
On buildings	53,8	38,0	15,8	53,4	38,5	14,9
On civil engineering works	46,2	22,5	23,7	46,6	22,6	24,0

1) Reconstructions, repair works and maintenance of existing constructions.

G-2 COMPOSITION OF HOURS WORKED ON SITES, BY TYPES OF CONSTRUCTIONS AND TYPES OF WORKS, SEPTEMBER 2023



NOTES ON METHODOLOGY

Time series of volume indices of construction works (\emptyset 2015 = 100) are available on the website of the Croatian Bureau of Statistics in the STS Database (the database of short-term statistics) at <https://stsbaza.dzs.hr/en/>.

The Croatian Bureau of Statistics submits data on volume indices of construction works to the Eurostat on a monthly basis. The data are comparable with indicators of other EU Member States and available on Eurostat's website <http://ec.europa.eu/eurostat>.

Sources and methods of data collection

Presented data on construction are collected through the reporting method on forms entitled the Monthly Report on Construction and the Quarterly Report on Construction (GRAD-21/M and GRAD-21/3M forms).

Coverage and comparability

The monthly and quarterly reports on construction are collected from business entities (legal entities and tradesmen) and parts thereof employing 20 or more persons classified according to the NKD 2007 (NN, No. 58/07) into section F Construction in the Statistical Business Register.

Data refer to all construction works (new constructions and reconstructions, maintenance and repair works on existing constructions) done on the territory of the Republic of Croatia. Constructions and works are classified according to the Classification of Types of Constructions – KVG.

The methodology for this survey is based on Regulation (EU) 2019/2152 of the European Parliament and of the Council of 27 November 2019 on European business statistics, repealing ten legal acts in the field of business statistics, and Commission Implementing Regulation (EU) 2020/1197 of 30 July 2020 laying down technical specifications and arrangements pursuant to Regulation (EU) 2019/2152 of the European Parliament and of the Council on European business statistics repealing ten legal acts in the field of business statistics.

Index calculation method

The volume indices of construction works are based on the number of hours worked on sites adjusted with a productivity factor. The productivity factor is estimated from a deflated value of works and working hours done on an annual basis, separately for buildings and for civil engineering works. The fluctuation of individual values of the productivity factor is alleviated by using the exponential smoothing of the time series. After the calculation of indices for buildings and for civil engineering works, the next phase includes the calculation of the index for total construction indirectly by aggregating these two semi-indices by applying the Laspeyres' formula. Weights are defined according to the share of the value added from section F – Construction, taking into account the production factors' costs from structural business statistics in the base year.

Since the productivity factor is estimated at the annual level on the basis of data from the previous year, data for the whole reference year will be issued as provisional results. After the calculation of the actual productivity for the reference year is done, final results will be issued.

Presentation of indices

Presentation and interpretation of volume indices of construction works are in line with Eurostat's requirements for the presentation of short-term business indicators and with the Regulation (EU) 2019/2152 of the European Parliament and of the Council.

The movements of the volume indices of construction works are presented and interpreted in relation to growth rates calculated on the basis of seasonally and working-day adjusted indices. Seasonally adjusted indices are used for the monthly comparison of movements of the volume indices of construction works and working-day adjusted

indices for the annual comparison.

Seasonal and working-day adjustment method

Seasonal and working-day adjustment has been done by using the X13 ARIMA method on a monthly index series (\emptyset 2015 = 100), which starts with January 2000 index. The effect of a random component in the seasonal adjustment process of time series of indices has been excluded. Calculated series of volume indices of construction works are comparable to those published by Eurostat.

Due to the character of the implemented seasonal adjustment method, the extension of the index series by adding new monthly observations for each new month could cause subsequent corrections of the already published seasonally and working-day adjusted indices and trend for several previous months.

Notice concerning the terminology used

In Croatian language, the term "kalendarsko prilagodavanje" (calendar adjustment) is not the literal translation of the term "working-day adjustment" in English, which means "adjustment for the number of working days". It is used in order to prevent misunderstandings by national users.

The term "working-day adjustment" in short-term business statistics actually refers to calendar adjustment, but due to specific Eurostat's requirements for short-term statistics, the term "working-day adjustment" is used instead.

Seasonally and working-day adjusted indices

The term "seasonally and working-day adjusted indices" is used to indicate that gross indices are adjusted for both seasonal and working-day effects. In line with Eurostat's requirements for short-term business indicators, the data that are compared to those of the previous month (that is, monthly comparison) are presented in a seasonally and working-day adjusted form of the volume indices of construction works or growth rates calculated from them.

Month-on-month growth rates of the volume of construction works (First Release, part I, table 1) calculated on the basis of seasonally and working-day adjusted indices (the comparison between the indices of the current reporting month with the indices of the previous reporting month) are presented and interpreted in the monthly comparison, in line with what is mentioned above.

Working-day adjusted indices

The term "working-day adjusted indices" is used to indicate that gross indices are adjusted only for working-day effects in line with Eurostat's requirements for short-term business indicators, while data compared to those of the same month of the previous year (that is, annual comparison) are presented in a working-day adjusted form of volume indices of construction works or growth rates calculated from them.

Year-on-year growth rates of the volume of construction works (First Release, part I, table 2) calculated on the basis of working-day adjusted indices (comparison between indices of the reporting month with the indices of the same reporting month of the previous year) are presented and interpreted in the annual comparison, in line with what is mentioned above.

Gross indices

In order to sustain the consistency and continuity with the previously released data, indices continue to be presented as gross, unadjusted indices in the same way as before, but they are not commented in particular (First Release, part II, table 1).

Abbreviations

EU	European Union
Eurostat	Statistical Office of the European Union
NKD 2007	National Classification of Activities, 2007 version
NN	Narodne novine, official gazette of the Republic of Croatia

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