

CONSTRUCTION ECONOMICS

ENR's 20-city average cost indexes, wages and material prices. Historical data and details for ENR's 20 cities can be found at [ENR.com/economics](https://www.enr.com/economics)

Construction Cost Index

+8.8%

ANNUAL INFLATION RATE

AUG. 2021

1913=100	INDEX VALUE	MONTH	YEAR
CONSTRUCTION COST	12463.13	+1.8%	+8.8%
COMMON LABOR	24353.34	+0.4%	+1.4%
WAGE \$/HR.	46.80	+0.4%	+1.4%

Building Cost Index

+14.9%

ANNUAL INFLATION RATE

AUG. 2021

1913=100	INDEX VALUE	MONTH	YEAR
BUILDING COST	7201.88	+2.8%	+14.9%
SKILLED LABOR	10848.29	+0.2%	+1.6%
WAGE \$/HR.	59.97	+0.2%	+1.6%

Materials Cost Index

+6.4%

MONTHLY INFLATION RATE

AUG. 2021

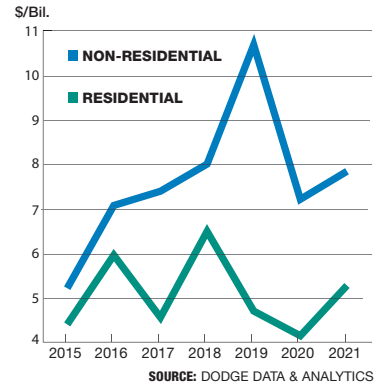
1913=100	INDEX VALUE	MONTH	YEAR
MATERIALS COST	4931.07	+6.4%	+39.3%
CEMENT \$/TON	147.11	-3.9%	-0.9%
STEEL \$/CWT	70.13	+10.8%	+26.4%
LUMBER \$/MBF	1088.37	+6.4%	+75.6%

The Construction Cost Index's annual escalation rose 8.8%, while the monthly component was up 1.8%.

The Building Cost Index was up 14.9% on an annual basis, while the monthly component increased 2.8%.

The MCI rose 6.4% on a monthly basis, while the annual escalation rate increased 39.3%.

Construction starts in the Boston metro area are expected to rise 15.6% in 2021, to \$13.1 billion, according to Dodge Data & Analytics. Dodge predicts a 8.8% increase in non-residential construction, while residential work is expected to rise 27.6%. Warehouse and multifamily are expected to see the greatest increase, while retail and education construction is predicted to decline.



ENR's Cost Indexes by City

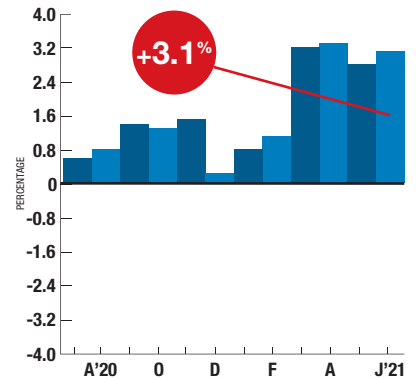
	CONSTRUCTION COST		BUILDING COST		COMMON LABOR		SKILLED LABOR		MATERIALS	
	AUG '21: 1913	% CHG. YEAR	AUG '21: 1913	% CHG. YEAR	AUG '21: 1967	% CHG. YEAR	AUG '21: 1967	% CHG. YEAR	AUG '21: 1967	% CHG. YEAR
ATLANTA	7645.41	+13.4	5565.51	+21.0	825.83	0.0	728.97	+2.6	1169.18	+39.9
BALTIMORE	10438.45	+14.8	6820.17	+26.8	1214.52	0.0	902.73	+3.1	1265.01	+58.1
BIRMINGHAM	8188.93	+9.5	5415.76	+15.5	978.68	0.0	823.99	+0.7	990.78	+32.9
BOSTON	16511.22	+11.8	8987.25	+13.6	1698.09	+6.3	1496.53	+2.1	1062.78	+42.7
CHICAGO	17644.12	+4.3	8859.78	+10.6	1690.57	0.0	1456.69	+2.1	876.11	+32.8
CINCINNATI	11462.80	+13.2	6304.31	+17.8	1077.82	+4.8	907.12	0.0	1042.93	+45.2
CLEVELAND	13266.24	+6.7	6993.82	+17.8	1086.20	-0.7	970.46	+3.9	1004.22	+42.9
DALLAS	6809.32	+14.3	5418.62	+18.6	742.23	0.0	738.08	0.0	1009.90	+38.1
DENVER	8138.79	+7.4	5741.19	+10.9	818.18	0.0	854.73	0.0	923.68	+25.9
DETROIT	13040.66	+7.8	7346.84	+15.9	1068.28	0.0	1020.67	+1.5	954.27	+43.8
KANSAS CITY	12667.33	+8.0	7267.59	+13.2	1324.93	+1.3	1246.63	+0.7	990.40	+35.8
LOS ANGELES	13403.65	+11.2	7701.02	+21.3	1111.66	0.0	1053.90	0.0	1178.22	+63.3
MINNEAPOLIS	13880.18	+6.3	7374.07	+12.7	1339.26	0.0	1238.40	0.0	972.32	+37.6
NEW ORLEANS	7348.81	+16.0	5329.09	+24.2	749.82	0.0	653.79	+1.2	1134.14	+45.8
NEW YORK CITY	21180.07	+3.9	10376.38	+7.6	1641.16	+0.9	1470.38	+1.3	994.66	+29.0
PHILADELPHIA	14829.98	+8.2	8169.99	+9.0	1605.07	+4.3	1356.72	+0.9	1011.15	+28.9
PITTSBURGH	12213.60	+12.5	7204.79	+17.2	1178.28	+5.2	1034.75	+3.9	933.25	+42.2
ST. LOUIS	13308.39	+6.9	7244.56	+14.4	1099.35	+0.3	1029.32	+2.2	1110.23	+35.5
SAN FRANCISCO	13817.73	+6.9	8524.32	+11.8	1046.50	0.0	1091.49	0.0	1229.22	+32.6
SEATTLE	13466.93	+8.3	7392.63	+13.2	1210.11	+2.9	1195.72	+2.9	1135.21	+33.5

Prices for PVC pipe products rose 3.1% in June after increasing 2.8% in May, according to the Bureau of Labor Statistics' producer price index for plastic construction products, which consists mostly of PVC pipe. The annual escalation rose to 21.8%. ENR's 20-city average price for both types of copper water tubing experienced both yearly and monthly increases in August. Monthly prices for 6-in. ductile-iron pipe fell 0.2%, while yearly prices decreased 0.4% since August 2020. All four types of reinforced-concrete pipe experienced monthly increases.

PRODUCER PRICE INDEX

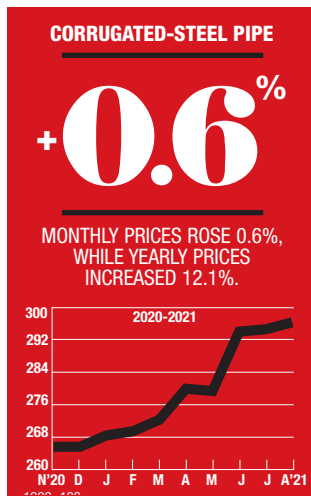
PVC PIPE

Monthly percent change

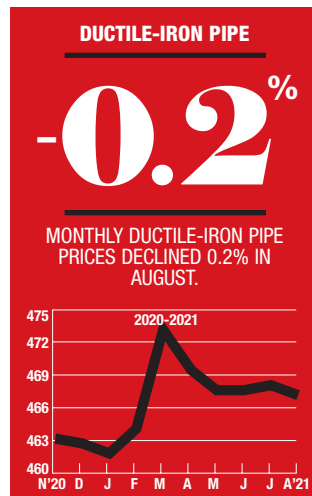


SOURCE: BUREAU OF LABOR STATISTICS

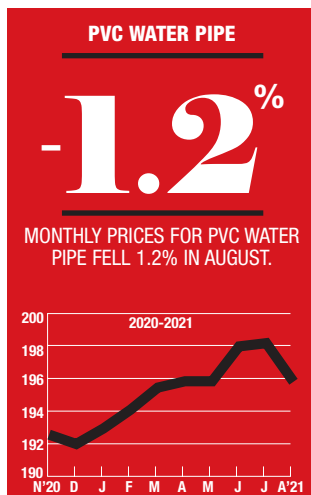
ENR's Materials Prices For August 2021



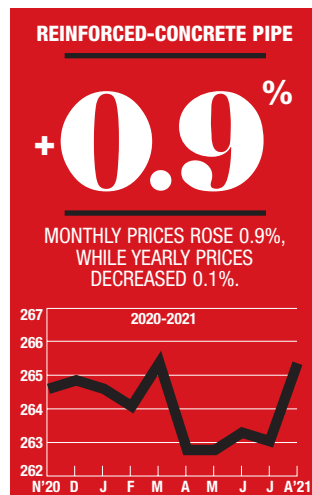
1992=100



1992=100



1992=100



1992=100

20-CITY AVERAGE

ITEM	UNIT	\$PRICE	%MONTH	%YEAR
REINFORCED-CONCRETE PIPE (RCP)				
12"	FT	18.87	+0.6	+1.1
24"	FT	36.90	+0.9	-0.1
36"	FT	75.53	+1.1	-0.4
48"	FT	126.07	+0.8	+3.2

CORRUGATED-STEEL PIPE (CSP)

12"	FT	12.04	+0.4	+6.7
36"	FT	39.24	+0.6	+12.1
60"	FT	85.13	+1.3	+12.0

POLYETHYLENE PIPE (PE): UNDERDRAIN

4"	FT	0.75	0.0	-3.1
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POLYVINYL-CHLORIDE PIPE (PVC)

Sewer, 46"	FT	1.69	-8.6	+6.6
8"	FT	5.91	-3.0	+14.3
Water, 6"	FT	6.41	-2.5	+8.1
8"	FT	9.92	-1.2	+1.6
12"	FT	18.40	+0.4	+1.9

DUCTILE-IRON PIPE (DIP)

6"	FT	18.83	-0.2	-0.4
8"	FT	28.20	-0.2	-2.0
12"	FT	43.99	-0.4	-1.7

COPPER WATER TUBING: TYPE L

1/2"	FT	1.97	+3.7	+19.9
1 1/2"	FT	7.99	+1.3	+13.1

SOURCE: ENR

CONSTRUCTION ECONOMICS

Sewer, Water and Drain Pipe For August 2021

City prices reflect quotes from single sources and can be volatile. They are not meant to be the prevailing price for a city. Data are a mix of list and transaction prices and may include ENR estimates. Do not compare prices between locations. Use city information to analyze national trends.

ITEM	UNIT	ATLANTA	BALTIMORE	BIRMINGHAM	BOSTON	CHICAGO	CINCINNATI	CLEVELAND	DALLAS	DENVER	DETROIT
REINFORCED-CONCRETE PIPE (RCP)											
12"	FT	18.40	17.50	-16.08	-19.13	18.61	18.30	18.30	17.88	18.58	18.30
24"	FT	37.55	35.00	-32.19	-42.72	40.50	42.90	42.90	41.25	41.63	42.90
36"	FT	74.15	70.00	-65.30	+93.69	82.15	96.85	96.85	77.56	81.77	96.85
48"	FT	126.39	115.00	-104.25	+156.50	132.44	157.65	157.65	137.31	140.95	157.65
CORRUGATED-STEEL PIPE (CSP)											
12"	FT	11.15	11.00	-10.83	11.91	12.27	10.99	10.67	-14.00	-12.41	9.99
36"	FT	35.68	34.00	-32.45	36.85	41.39	31.00	35.60	-35.28	+43.55	37.99
60"	FT	80.87	74.00	-73.62	79.43	86.56	62.00	66.98	+85.67	+85.62	85.55
POLYETHYLENE PIPE (PE): UNDERDRAIN											
4"	FT	-0.63	+0.86	0.61	0.92	0.76	+0.48	0.49	0.80	0.89	0.47
POLYVINYL-CHLORIDE PIPE (PVC)											
SEWER, 4"											
	FT	-1.47	1.43	1.43	1.88	1.69	+1.55	1.54	1.74	1.63	-1.32
8"											
	FT	+6.18	+5.38	4.80	5.84	5.57	5.40	+5.30	6.23	5.60	+5.39
WATER, 6"											
	FT	-6.51	6.80	5.92	6.07	6.21	+6.60	+6.12	5.89	6.37	6.58
8"											
	FT	-11.02	9.20	9.25	10.12	9.88	10.00	6.21	10.56	10.05	11.00
12"											
	FT	-21.59	18.00	16.86	19.00	19.15	17.00	9.35	22.25	18.96	22.66
DUCTILE-IRON PIPE (DIP)											
6"											
	FT	19.17	21.00	+16.49	23.02	-22.20	24.00	16.20	21.39	18.71	16.72
8"											
	FT	31.92	29.00	+23.48	37.58	+34.00	35.00	24.22	32.80	28.90	22.84
12"											
	FT	57.24	50.00	+39.70	54.31	-49.85	50.00	37.35	48.12	43.35	36.98
COPPER WATER TUBING: TYPE L											
1/2"											
	FT	+1.80	2.02	1.75	2.00	+1.94	+1.94	1.98	2.07	+1.95	+2.02
1 1/2"											
	FT	+8.02	8.92	6.99	7.10	+7.45	-9.11	-9.19	6.81	+7.49	9.10
ITEM	UNIT	KANSAS CITY	LOS ANGELES	MINNEAPOLIS	NEW ORLEANS	NEW YORK	PHILADELPHIA	PITTSBURGH	ST. LOUIS	SAN FRANCISCO	SEATTLE
REINFORCED-CONCRETE PIPE (RCP)											
12"	FT	+18.20	31.00	17.30	18.99	+19.72	24.09	14.00	+18.45	15.70	-18.80
24"	FT	+33.70	+28.50	30.80	37.08	-40.38	41.25	26.00	+27.80	37.30	-35.71
36"	FT	+66.50	+55.50	50.60	77.20	+82.65	79.80	55.00	+54.40	78.40	-75.42
48"	FT	+116.00	84.00	93.00	130.34	-137.51	135.62	90.00	+98.00	122.00	-129.15
CORRUGATED-STEEL PIPE (CSP)											
12"	FT	11.99	+16.19	10.36	11.35	+12.46	11.59	10.15	8.89	19.00	12.18
36"	FT	39.99	+57.43	35.10	37.18	+39.20	37.26	32.00	35.99	-63.53	38.97
60"	FT	72.72	+141.79	92.18	80.53	+85.63	76.40	71.00	58.08	-163.17	80.73
POLYETHYLENE PIPE (PE): UNDERDRAIN											
4"	FT	+0.46	1.42	0.50	0.78	0.81	-0.88	+0.69	0.48	1.20	0.79
POLYVINYL-CHLORIDE PIPE (PVC)											
SEWER, 4"											
	FT	+1.56	2.61	-1.33	+1.80	1.72	+2.00	+1.60	+1.57	-2.34	1.68
8"											
	FT	5.48	6.94	5.52	+5.77	6.00	-6.15	+5.47	5.43	-10.08	5.56
WATER, 6"											
	FT	6.88	6.13	-6.90	+6.53	6.28	+6.97	6.72	+6.32	-5.56	6.82
8"											
	FT	10.72	8.06	12.32	+10.12	9.93	+10.89	8.75	8.60	-12.00	10.10
12"											
	FT	12.10	15.27	19.25	+20.91	19.26	+19.75	17.50	14.05	-22.58	22.46
DUCTILE-IRON PIPE (DIP)											
6"											
	FT	14.22	17.47	13.52	17.87	20.15	-19.64	18.50	16.50	20.51	19.33
8"											
	FT	17.24	23.01	22.88	26.05	34.73	-31.55	30.00	22.76	27.12	28.95
12"											
	FT	31.85	35.25	38.81	44.96	52.64	+45.40	41.00	37.89	45.63	43.52
COPPER WATER TUBING: TYPE L											
1/2"											
	FT	+1.96	1.86	+1.95	1.90	2.00	+1.68	2.04	+1.99	2.40	2.12
1 1/2"											
	FT	9.12	7.69	9.21	7.26	6.67	+6.95	-9.26	9.24	6.59	7.56

+ OR - DENOTES PRICE HAS RISEN OR FALLEN SINCE PREVIOUS REPORT; QUOTES ARE DELIVERED PRICES. SOME PRICES MAY INCLUDE TAXES OR DISCOUNTS. PRODUCT SPECIFICATION MAY VARY, DEPENDING ON WHAT IS MOST COMMONLY USED OR MOST ACCESSIBLE IN A CITY. QUANTITIES ARE GENERALLY TRUCKLOADS. RCP PIPE IS ASTM C76; 12 IN. AND 24 IN. ARE RUBBER-GASKET JOINTED, OTHERS ARE NON-CORRUGATED. CORRUGATED STEEL PIPE IS PLAIN GALVANIZED; 12 IN. IS 16 GAUGE, 36 IN. IS 14 GAUGE, 60 IN. IS 12 GAUGE. PE PIPE IS M252, PERFORATED AND CORRUGATED. PVC SEWER PIPE IS ASTM D-3034, SDR-35. PVC WATER PIPE IS C900, CL 150. DIP PIPE IS CL 150 WITH A PUSH-ON JOINT. COPPER WATER TUBING PIPE IS HARD AND INTERIOR DIAMETER, TYPE L.