

Asphalt Cement Price Index Example Calculations

The asphalt price index adjustment is made to every applicable item in the contract if the total wet ton quantity for that contract exceeds 1000 tons, or if the converted square yard quantity exceeds 1000 tons.

Plant mix bituminous base, plant mix bituminous pavement, plant mix bituminous surface leveling, commercial mix, asphaltic concrete and ultrathin bonded asphalt wearing surface that contain PG64-22, PG70-22 or PG76-22 are all eligible for price adjustment.

The intent of the specification is that the adjustment should be made for all mixed placed during the two estimate periods of the month after the date the index is posted. For example, if the index is posted on June 20, 2008, the index would be applied to all mix placed during the estimate periods ending July 15 and August 1.

The adjustment applies only to the virgin asphalt cement actually placed. The percent AC on the job mix should be used for the calculation unless the change in target AC meets the requirement for field mix redesign. The asphalt cement contribution of RAP is excluded.

The adjustment is calculated using the following formula:

$$A = (B \times C) \times (D - E)$$

Where:

- A = Adjustment for mix placed during monthly average index period.
- B = Tons of mix placed during the monthly average index period
- C = % of virgin asphalt binder as listed in the job mix formula
- D = monthly average price at time of mix placement
- E = monthly average price at time of bid.

The baseline asphalt prices for the index are taken from the Asphalt Weekly Monitor® published by Poten & Partners inc. The average of the midpoint published prices for PG64-22 in the St. Louis, Missouri and Kansas City area will be used. The monthly base price will be the price in the last published Asphalt Weekly Monitor® prior to MODOT's monthly bid opening.

Asphalt price index data can be found on the MoDOT web page at this link:

HOME >> BUSINESS >> CONTRACTOR RESOURCES >> BID OPENING INFO >> GENERAL INFORMATION

The following data for 2008 will be used in the example calculations.

January	\$297.50
February	\$311.25

March	\$350.00
April	\$365.00
May	\$400.00
June	\$501.25
July	\$615.00
August	\$705.00
September	\$685.00
October	\$601.25
November	\$535.00
December	\$478.75

Example #1

The contract was bid on March 28, 2008. 15,000 tons of SP125SM PG 76-22 were placed during the first estimate period in June. Job mix 6.1% AC. No RAP.

$$B = 15,000$$

$$C = 6.1\%$$

$$D = 400.00$$

$$E = 350.00$$

$$A = (15,000 \times 0.061) \times (400.00 - 350.00)$$

$$\text{Adjustment} = \$45,750.00$$

Example #2

The contract was bid on February 29, 2008. 8000 tons of BP-1 PG64-22 were placed in the second estimate period of July, 2008. It is RAP mix with 4.2% virgin AC.

$$B = 8000$$

$$C = 4.2\%$$

$$D = 501.25$$

$$E = 311.25$$

$$A = (8000 \times 0.042) \times (501.25 - 311.25)$$

$$\text{Adjustment} = \$63,840$$

Example # 3

The contract was bid on July 25, 2008. 2000 tons of SP125C PG 70-22 were placed in the first estimate period of November, 2008. Job mix 5.2% AC. No RAP

B = 2000
C = 5.2%
D = 601.25
E = 615.00

$$A + (2000 \times 0.052) \times (601.25 - 615.00)$$

Adjustment is a deduct in the amount of \$1,430.

Automated spreadsheets are located on the V drive in the Asphalt folder. Always select “update links,” when opening the file to use most recent factors. Also enter the exact date of letting to ensure the spreadsheet extracts the correct beginning index.

Asphalt Price Adjustment.XLS is used for is used for bituminous pavements and asphaltic concrete when paid by the ton. Asphalt Price Adjustment for Square Yard Items.XLS is used for bituminous pavements and asphaltic concrete when paid by the square yard. It may also be used to calculate the adjustment for unbonded asphalt wearing surface (UBAWS).

When using the spreadsheet for square yard pay items, the values for thickness, G_{mm} and density should be averages for the period. The exception would be UBAWS which uses the Gmm from the job mix and 91% for density.

The automated spreadsheets may produce incorrect results if the project is in liquidated damages. The JSP requires that the value for “D” in the equation be either the last value before the project went into damages, or the current value, whichever is lower. In this situation, the asphalt cement price adjustment should be calculated manually.

Even though the spreadsheet can assist with the calculations, a manual check is preferred practice.