William Rossell

CE 417

Homework 12

Due Date: 02-21-2018

Question:

Asphalt Pavers, Inc., purchases a loader to use at its asphalt plant. The purchase price delivered is $326,000. Tires for this machine cost $26,000. The company believes it can sell the loader after six years (2,800 hr/yr) of service for $75,000. There will be no major overhauls. The company’s cost of capital is 6.31%. What is the depreciation part of this machines ownership cost? Use the time value method to calculate depreciation. ($18.191/hr)

Solution:

Calculate the equivalent uniform period series required to replace a present value of $300,000…

Calculate the equivalent uniform end-of-period invests that equals the future salvage value of $75,000…

Therefore, using the time value method the hourly depreciation portion of the machine’s ownership cost is…

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Homework 13

Due Date: 02-21-2018

Question:

For the machine described in Problem 2.15 (HW12), what is the depreciation part of machine ownership cost? Use the AAI method of calculation.

Solution:

Where,

P, Purchase Price Less Cost of Tires ($300,000)

S, Estimated Salvage Value ($75,000)

n, Expected Service Life in Years (6 years)

The AAI is multiplied by the corporate cost of capital rate to determine the cost of money portion of depreciation…

The straight-line depreciation of the cost of the machine less the salvage and less the cost of tire is then added to the cost of money portion (interest) to arrive at the total amount of ownership depreciation.