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Reducing balance method formula accounting

What is the formula for calculating reducing balance method. Reducing balance method formula example. What is reducing balance method.

The declining balance or reducing balance depreciation method considers the value of assets that are largely used or highly contribute to operation at the beginning and then subsequently decline. That means depreciation expenses that should be charged to certain types of assets are high at first and then low subsequently. This is the main principle of this depreciation. In other words, the depreciation expenses are subsequently decreased until the value is zero or reaches the residual value. Declining balance or reducing balance depreciation method means the same thing. Some people call the declining balance method and some people called the reducing balance method. However, the way how we calculate the depreciation expenses is the same. We will discuss the detail of this method in this article. Does this depreciation method allow by IFRS? Well, under IAS 16, there are three methods were mentioned. They are the straight-line method, the diminishing balance method, and the units of production method. Declining balance and reducing is the way how the diminishing balance method is calculated. That means this method is allowed. The declining balance formula is quite easy to use and remember if you really understand the principle of it. The following is the formula: Declining balance formula: Depreciation Expenses = (Net Books - Residual Value) * Depreciation Rate. Depreciation expenses are the expenses that charged to assets for a specific period or based on specific systematic ways. Carrying Value of Assets is equal to the book value of assets less accumulated depreciation. Carrying Value of Assets is sometimes called the Netbooks Value of Assets. Residual value is the value of assets that should remain at the end of its useful life based on expectations. Depreciation Rate is the rate provided to certain types of assets. The value of assets should be reduced by this rate. Book Value is the capitalization costs of assets. The depreciable value of assets is calculated by the book value less residual value of assets. Accumulated depreciation at the end of the year could not exceed this amount. Calculating the depreciation expenses using the reducing balance method is not too difficult. To calculate, the information we need is book value (Costs of assets) of assets, salvages value, depreciation rate, and useful life of assets. Books value of assets include: its purchase price of fixed assets, import duties of assets and non-refundable purchase taxes. Discount and rebate should not take into account. Costs to bringing the asset to the location and condition and these costs should also be capitalized. And dismantling costs. Second, we need to identify the salvage's value of assets. We need this to calculate the depreciable value of assets. zanufo After identifying the salvage value of assets, we need to find the depreciation rate and useful life of assets. Finally, it is time for calculating depreciation expenses. To calculate the first-year depreciation, we just need to deduct the salvage value from the value of the book of the asset. Then we will get the depreciable value. feyering After that, multiply the depreciable value with the depreciation rate. We will get the first-year depreciation expenses. The second-year depreciation expenses are calculated by deducting the scrap value from the first year's net book value then we multiply the remaining amount with the depreciation rate. We then get the second-year depreciation expenses. Then follow this step until the end of the assets' useful life. The last year's depreciation is normally different from the NBV of the year before last year with scrap value. This will make sure that all depreciable values are charged. The following is the example and it might help to illustrate the above explanation. Related article: Adjusting Entries for Depreciation Expense. In this example, we can see that the depreciable amount is 8,000 USD and the first-year depreciation expenses are 4,000 and 2,000, respectively. Last year's depreciation expenses are the difference between the net book value of the second year and the scrap value. This is to make sure that all depreciable value is charged. Sinra Under reducing balance method, the depreciation is charged at a fixed rate like straight line method (also known as fixed installment method). But the rate percent is not calculated on cost of asset as is done under fixed installment method - it is calculated on the book value of asset. The book value of an asset is obtained by deducting depreciation from its cost. The book value of asset gradually reduces on account of charging depreciation. Since the depreciation rate per cent is applied on reducing balance of asset, this method is called reducing balance method or diminishing balance method. The calculation of depreciation under this method will be clear from the following example. Suppose the cost of asset is \$1,000 and rate of depreciation 10% p.a. Cost of asset 1,000 Depreciation: 1st year: 10% of 1,000 = 100 Book value 900 2nd year: 10% of 900 = 90 Book value 810 3rd year: 10% of 810 = 81 Book value 729 and so on..... Under fixed installment method the amount of annual depreciation remains the same but under reducing balance method the amount of annual depreciation gradually reduces. This method is especially suitable to assets with long life, e.g., plant and machinery, furniture, motor car etc. Under this method the real cost of using an asset is the depreciation and repair expenses so this method gives better results because in early years when repair expenses are less the depreciation is more. caneiba As the asset gets older repair charges on it increases and the amount of depreciation decreases. So the combined effect of both these costs remain almost constant on the profit and loss of each year.

Reducing Balance Method in Depreciation

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Reducing Balance Depreciation

$$A = \text{Book value after } n \text{ yrs depreciation}$$

$$P = \text{Original value}$$

$$i = \text{annual dep. rate as a decimal}$$

$$n = \text{no. of yrs}$$

eg \$2000 machine depreciates at 20% reducing balance
find its value after 6 yrs

$$A = P(1-i)^n$$

$$P = 2000 \quad A = 2000(1-0.2)^6$$

$$i = 0.2 \quad = \$524.29$$

$$n = 6$$

$y = ab^x$
 $x > 0, b < 1$
 $y = 5(0.8)^x$

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$$DB = 1 - \sqrt[n]{\frac{\text{Salvage Value}}{\text{Cost}}}$$

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REDUCING BALANCE METHOD

A machine Y costs \$10,000 is depreciated at 20% per annum on the reducing balance method. Show depreciation for the first 3 years.

	Depreciation	Net Book Value
Year 1	$\frac{20}{100} \times 10,000 = \$2,000$	$\$10,000 - \$2,000 = \$8,000$
Year 2	$\frac{20}{100} \times 8,000 = \$1,600$	$\$10,000 - \$1,600 = \$8,400$
Year 3	$\frac{20}{100} \times 6,400 = \$1,280$	$\$10,000 - \$1,280 = \$8,720$

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Depreciation Formula

Straight Line Depreciation = $\frac{\text{Cost of an Asset} - \text{Residual Value}}{\text{Useful life of an Asset}}$

Diminishing Balance Method = $\frac{\text{Cost of an Asset} * \text{Rate of Depreciation}}{100}$

Unit of Product Method = $\frac{\text{Cost of an Asset} - \text{Salvage Value}}{\text{Useful life in the form of Units Produced}}$

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This will make sure that all depreciable values are charged. The following is the example and it might help to illustrate the above explanation. Related article: [Adjusting Entries for Depreciation Expense](#) For example, your company just bought the computers amount 10,000 and the depreciation rate for the computers, based on the company policy 50% reducing balance (decreasing balance). The Expected residual value is 2,000 USD. The useful life of assets is expected to be three years. Here is the calculation. In this example, we can see that the depreciable amount is 8,000 USD and the first-year depreciation expenses are 4,000 and 2,000, respectively. Last year's depreciation expenses are the difference between the net book value of the second year and the scrap value. This is to make sure that all depreciable value is charged. **Under reducing balance method, the depreciation is charged at a fixed rate like straight line method (also known as fixed installment method).** But the rate percent is not calculated on cost of asset as is done under fixed installment method - it is calculated on the book value of asset. The book value of an asset is obtained by deducting depreciation from its cost. The book value of asset gradually reduces on account of charging depreciation. Since the depreciation rate per cent is applied on reducing balance of asset, this method is called reducing balance method. The calculation of depreciation under this method will be clear from the following example. Suppose the cost of asset is \$1,000 and rate of depreciation 10% p.a. Cost of asset 1,000 Depreciation: 1st year: 10% of 1,000 100 Book value 900 2nd year: 10% of 900 90 Book value 810 3rd year: 10% of 810 81 Book value 729 and so on.....

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This method is especially suitable to assets with long life, e.g., plant and machinery, furniture, motor car etc. Under this method the real cost of using an asset is the depreciation and repair expenses so this method gives better results because in early years when repair expenses are less the depreciation is more. As the asset gets older repair charges on it increases and the amount of depreciation decreases. So the combined effect of both these costs remain almost constant on the profit and loss of each year.

The great weakness of this method is that it takes very long time to write off an asset to approximately nil, unless a very high rate is used, in which case the burden on earlier years shall be excessive. This method is used by income tax authorities for granting depreciation allowance to assesses. Formula for the Calculation of Depreciation Rate: The calculation of correct rate of depreciation is very important under this method. Following formula should be applied under given conditions: When the cost of asset, residual value and useful life of an asset is given: $r = 1 - (S/C)/n$ Where: r = Rate of depreciation n = Estimated useful life of asset S = Residual value after the expiry of useful life C = Original cost of asset Example 2: If $n = 3$ years, $S = 64,000$ and $C = 1,000,000$ calculate rate of depreciation.

$r = 1 - (64,000/1,000,000)/3 = 1 - 40/100 = 60/100 = 60\%$ Difference Between Straight Line Method and Reducing Balance Method: Following are the main points of difference between straight line method and reducing balance method of depreciation: Straight Line Method Reducing Balance Method 1. The rate and amount of depreciation remain the same each year. 1. The rate remains the same, but the amount of depreciation diminishes gradually. 2. Depreciation rate per cent is calculated on cost of assets each year. 2. Depreciation rate per cent is calculated on book value of asset. 3. At the end of its life the value of asset is reduced to zero or scrap value. 3. The value of asset is never reduced to zero at the end of its life. 4. The older the asset the larger the cost of its repair. But the amount of depreciation remain the same each year. Hence, the total of depreciation and repairs increases every year. This reduces annual profit gradually.

4. The amount of depreciation decreases gradually, while the cost of repairs increases. So the total of depreciation and repairs remain more or less the same each year.

Hence, it can little or no change in annual profit/loss. 5. Computation of depreciation under straight line method is comparatively easy and simple. 5. Depreciation can be computed without any difficulty, but it is not easy and simple. Under the reducing balance method, the amount of depreciation is calculated by applying a fixed percentage on the book value of the asset each year. In this way, the amount of depreciation each year is less than the amount provided for in the previous year. This is because the book value used to compute the depreciation expense is continually reduced from year to year. Reducing Balance Method: Formula: Use the following formula to calculate depreciation under the reducing balance method. Depreciation = Asset book value \times Depreciation rate Where: Depreciation is the dollar amount lost in value. Asset book value is the value of the asset for accounting purposes. Depreciation rate is the percentage decline in the asset's value. Example: Calculating Depreciation Under Reducing Balance Method On 1 January 2016 XYZ Limited purchased a truck for \$75,000. Depreciation is estimated at 20% per year on the book value. Required: Calculate the truck's depreciation for 2016, 2017, and 2018. Solution: 2016 The book value at the beginning of 2016 is \$75,000. Depreciation for 2016 is $\$75,000 \times 0.2 = \$15,000$. 2017 The book value at the beginning of 2017 is $\$75,000 - \$15,000 = \$60,000$. Depreciation for 2017 is $\$60,000 \times 0.2 = \$12,000$. 2018 The book value at the beginning of 2018 is $\$60,000 - \$12,000 = \$48,000$. Depreciation for 2018 is $\$48,000 \times 0.2 = \$9,600$.

Notes: Notice that the depreciation provided in 2018 (\$9,600) is less than the amount of depreciation provided in 2017 (\$12,000). In turn, this is less than the amount provided in 2016 (\$15,000).

The reason for this is that the rate of depreciation (20% in this case) is being applied to the book value, which continually reduces each year. In 2016, the book value was \$75,000, while in 2017, it fell to \$60,000. A year later, it reduced to \$48,000. Remember that the rate of depreciation remains constant but it is applied to a lesser amount (i.e., book value) each year. Hence, the amount of depreciation each year is lower. The reducing balance method is also known as the reducing installment method. It is especially useful for fixed assets whose value deteriorates faster in the earlier years of usage (e.g., cars, office equipment, and small machinery).