6.3.4.6 Specific Cost of Cement Processed [RC/t cem]

Description

Specific cost of cement processed corresponds to the total cost of cement processed per ton, it includes the specific actual cost of cement (from the 15A) and the cost of clinker and cement purchased/transferred where it is further processed as part of the production function.

Reference to Process

This indicator refers to:

- All main cost centers up to and including 'Cement Grinding / Blending'
- Type of cost 'Cost of finished goods purchased'
- Product sub-segment Clinker and Cement

Purpose

To measure the cost of cement production including the cost of clinker and cement purchased/transferred in terms of volume of cement produced.

Calculation


= Specific Cost of Cement Processed [RC/t cem]
24.14
Specific Cost of Clinker Processed in Cement Equivalents [RC/t cem]
15.87
Cost of Clinker Processed [RC]
95149
Cost of Clinker [RC]
60000
Clinker Production Volume [t]
3000
+ Cost of Clinker Purchased/Transferred and Consumed [RC]
18699
* Specific Actual cost of Clinker [RC/t]
20
+ Cost of clinker equivalent of Cement transferred in processed - consumed [RC]
5762
Volume of Cement transferred in processed - consumed [t]
400
* Cost of Cement transferred in processed - consumed' [RC/t]
33.50
* Clinker factor [%]
43
+ Cost of clinker equivalent of Cement purchased processed - consumed [RC]
10688
Volume of Cement purchased processed - consumed [t]
250
* Cost of Cement purchased processed - consumed' [RC/t]
45
* Clinker factor [%]
95
/ Volume of Clinker Produced and Purchased /Transferred and Consumed [t clin]
3709.50
Clinker Production volume [t clin]
3000
+ Volume of Clinker Purchased/Transferred - consumed [t]
300
+ Clinker content of transferred in cement - consumed [t]
172
Cement transferred in processed - consumed [t]
400
* Clinker factor [%]
43
+ Clinker content of purchased cement - consumed [t]
237.50
Cement purchased processed - consumed [t]
250
* Clinker factor [%]
95
* Clinker Factor Production [%]
61.90
+ Specific Cost of Cement Grinding / Blending and MIC equivalent of Cement Purchased/Transferred - consumed [RC/t cem]
7.76
Actual Cost of Cement Grinding / Blending [RC]
19350
+ Cost of MIC equivalent of Cement transferred / purchased processed - consumed [RC]
8201
Cost of MIC equivalent of Cement transferred in processed - consumed [RC]
7638
Volume of Cement transferred in processed - consumed [t]
400
* Cost of Cement transferred in processed - consumed' [RC/t]
33.50
* 100 - Clinker factor [%]
1-0.43
+ Cost of MIC equivalent of Cement purchased processed - consumed [RC]
563
Volume of Cement purchased processed - consumed [t]
250
* Cost of Cement purchased processed - consumed' [RC/t]
45
* 100 - Clinker factor [%]
1-0.95
+ Cost of MIC / other raw materials transferred in processed - consumed [RC]
160
/ Cement Production Volume [t cem]
3570
+ Specific Cost of Raw Materials Directly Consumed - Processed in Cement Equivalents [RC/t cem]
0.50

Spec Cost of Cem Proc_Tree

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Comments and Examples

The clinker content of a purchased cement can be estimated by the delivery documents. Depending on the local standards the cement type has per definition a certain range of clinker. The cement type is always specified in the applicable contract and the delivery / quality documents.
Where needed the accuracy of clinker content can be further fine tuned by laboratory analysis and calculated as the difference between the total weight and the non-clinker components. The MIC, LS and gypsum content of a cement can be determined generally easily by LOI (Loss On Ignition) or RX analysis.

Clinker and cement purchased/transferred is included only where it is further processed as part of cost center 'Cement grinding / blending' within the respective plant. Clinker and cement purchased and sold directly to a customer without further processing is not included.

This indicator includes, when calculated at plant level, also the cost of raw materials transferred in and consumed similar to the clinker and cement transferred.

This indicator does not result in any amendment to the 15A, however the following illustration indicates an example of how this indicator can be calculated using the 15A as a base.

Spec Cost of Cem Proc_overview

The calculation of 'Specific Cost of Cement Processed [RC/t cem]' follows the following steps (the figures mentioned equal the figures used in the Example above:

Cost of Clinker per Ton

Step 1:

Calculation of 'Actual cost of clinker' (A1) (RC 60'000) by multiplying the 'Clinker production volume' (A2) (3'000 t) by the 'Specific actual cost of clinker' (C1) (RC/t 20). (Up to and including clinker production).

Step 2:
Calculation of cost of 'Clinker purchased/ transferred in processed consumed' (A5) (RC 18'699) by multiplying the volume of 'Clinker purchased / transferred in processed consumed' (I5) (300 t) by the 'Average cost in inventory' value of the 'Clinker purchased / transferred in processed consumed' (J5) (RC/ t 62.33).

Step 3:
Calculation of cost of clinker equivalent of 'Cement transferred in processed - consumed' (A6) (RC 5'762) by multiplying the volume of 'Cement transferred in processed -

consumed' (I6) (400 t) by the 'Average cost in inventory' value of the 'Cement transferred in processed - consumed' (J6) (RC/ t 33.50) and by the 'Clinker factor' of same cement (K6) (43.0%).

Step 4:
Calculation of cost of clinker equivalent of 'Cement purchased processed - consumed' (A7) (RC 10'688) by multiplying the volume of 'Cement purchased processed - consumed' (I7) (250 t) by the 'Average cost in inventory' value of the 'Cement purchased processed - consumed' (J7) (RC/ t 45.0) and by the 'Clinker factor' of same cement (K7) (95.0 %).

Step 5:
Calculation of "Tons of 'clinker' and 'clinker equivalent cement' purchased and transferred in processed - consumed" (A11)(709.5 t) by adding up: 'Clinker purchased and transferred in processed - consumed' (I5) (300 t); 'Clinker content of transferred cement consumed [(I6)*(K6)] or [400*43.0%=172 t]; and 'Clinker content of purchased cement consumed [(I7)*(K7)] or [250*95.0%=237.5 t].

Step 6:
Calculation of total 'Cost of clinker processed' (A12) (RC 95'149) by adding up: 'Actual cost of clinker' (A1) (RC 60'000); cost of 'Clinker purchased/ transferred in - consumed' (A5) (RC 18'699); clinker equivalent cost of 'Cement transferred in consumed' (A6) (RC 5'762) and clinker equivalent cost of 'Cement purchased consumed' (A7) (RC 10'688).

Step 7:
Calculation of total 'Tons clinker produced and clinker purchased / transferred in - consumed' (A13) (3'709.5 t) by adding up: 'Clinker production volume' (A2) (3'000 t) and ''Tons of 'clinker' and 'clinker equivalent cement' purchased and transferred in processed - consumed'' (A11) (709.5 t).

Step 8:
Calculation of 'Specific cost of clinker processed' (C12) (RC/t clin 25.65) by dividing the 'Cost of clinker processed' (A12) (RC 95'149) by 'Tons clinker produced and clinker purchased / transferred in - consumed' (A13) (3'709.5 t).

Step 9:
Calculation of 'Clinker factor production' (C3) (61.9 %). This is the ratio (A/B) of the sum A: 'Own clinker - consumed' (I4) (1'500 t); 'Clinker purchased / transferred in processed - consumed' (I5) (300 t); clinker content of cement transferred consumed [400 t x 43% = 172 t] and clinker content of cement purchased consumed [250 t x 95% = 237.5 t] and B 'Cement production volume' (E2) (3'570 t).

Step 10:
Calculation of 'Specific cost of clinker processed cement equivalent' (D12) (RC/t cem 15.87) by multiplying 'Specific cost of clinker processed' (C12) (RC/t clin 25.65) by 'Clinker factor production' (C3) (61.9 %).

Cost of Cement Grinding / Blending per Ton

Step 11:
Calculation of cost of MIC equivalent of 'Cement transferred in processed - consumed' (E6) (RC 7'638) by multiplying the 'Average cost in inventory' of 'Cement transferred in

processed - consumed' (J6) (RC/t 33.50) by 'Cement transferred in processed - consumed' (I6) (400 t) and by MIC content of transferred cement consumed (1 - Clinker factor), (1 - K6) or [1 - 0.43 = 0.57].

Step 12:
Calculation of cost of MIC equivalent of 'Cement purchased processed - consumed' (E7) (RC 563) by multiplying the 'Average cost in inventory' of 'Cement purchased processed - consumed' (J7) (RC/t 45.0) by 'Cement purchased processed consumed' (I7) (250 t) and by MIC content of 'Cement transferred in processed - consumed' (1 - Clinker factor), (1 - K7) or [1 - 0.95 = 0.05].

Step 13:
Calculation of cost of 'MIC transferred in processed - consumed' (E8) (RC 160) by multiplying the 'Average cost in inventory' of 'MIC transferred in processed - consumed' (J8) (RC/t 8.00) by the 'MIC transferred in processed - consumed' (I8) (20 t).

Note:
This step is only applicable when the 'Actual cost of cement grinding / blending' does not already include the cost of transferred products in the type of cost 'Raw Materials' of 'Cement Grinding / Blending'.

Step 14:
Calculation of 'Cost of cement grinding / blending' and 'MIC equivalent cost of cement transferred in - consumed' and 'MIC equivalent cost of cement purchased - consumed' and 'Cost of MIC transferred in - consumed' (E12) (RC 27'711) by adding up: 'Actual cost of cement grinding / blending' (E1) (RC 19'350); 'MIC equivalent cost of cement transferred in - consumed' (E6) (RC 7'638); 'MIC equivalent cost of cement purchased - consumed' (E7) (RC 563); 'Cost of MIC transferred in - consumed' (E8) (RC 160).

Step 15:
Calculation of total 'Cement processed volume' (E13) (3'570 t). This equals the 'Cement production volume' (E2) (3'570 t); this is the sum of 'Cement transferred in processed - consumed' (I6) (400 t); 'Cement purchased processed - consumed' (I7) (250 t); 'MIC transferred in processed - consumed' (I8) (20 t); 'MIC purchased processed - consumed' (I9) (300 t) and 'Volume ground' (I10) (2'600 t).

Step 16:
Calculation of [specific 'Actual cost of cement grinding / blending' and 'Cement transferred in processed - consumed' and 'Cement purchased processed - consumed' and 'MIC transferred in processed - consumed'] (F12) (RC/t cem 7.76) by dividing (A / B) the A sum of: Actual cost of cement grinding / blending'; 'MIC equivalent cost of cement transferred in processed - consumed' and 'MIC equivalent cost of cement purchased processed - consumed' and 'Cost of MIC transferred in processed - consumed' (E12) (RC 27'711) '' by B: 'Cement production volume' (E2) (3'570 t).

Cost of Cement Processed per Ton

Step 17:
Calculation of 'Specific Cost of Cement Processed' (H12) (RC/t cem 24.14) by adding up 'Specific cost of clinker processed cement equivalent' (D12) (RC/t cem 15.87); [specific 'Actual cost of cement grinding / blending' and 'Cement transferred in processed -

consumed' and 'Cement purchased processed - consumed' and 'MIC transferred in processed - consumed'] (F12) (RC/t cem 7.76) and 'Specific cost of raw materials directly consumed in cement' (G1=G12) (RC/t cem 0.50).

Aggregation rule

For practicality the aggregation of more than 1 plant is performed using the weighted average of the respective plants. The weighing is performed by the cement production volume.

Printable Version

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Reporting Requirements

The indicator is not reported in SAP FC.