

Whitepaper – Univocal framework for post-calculation and 5D BIM – addendum **Integration ABK model 2023**

In the Netherlands, the brochure 'General construction site costs, model 2023 - update from 2018, integrated model' was published at the end of 2023.

This is now adopted in the Object Code for functional systems as agreed by BouwData, the Agentschap Facilitair Bedrijf and Bimplan.

Below are the associated attention points.

Cluster B5 General execution costs /miscellaneous (GEC)

The NEN 2699 Investment and operating costs of property - Terminology and classification:2017 has a cluster B5 General implementation costs/miscellaneous¹.

This breaks down into the following element clusters:

- B5A Miscellaneous (detailing in design phase)
- B5B General execution costs (project)
- B5C Coordination costs independent contractors
- B5D General operating costs (company)
- B5E Profit and risk (company)

In Belgium, when the Public Procurement Act applies, element clusters B5D General operating costs (company) and B5E Profit and risk (company) will not be used. Costs for these two element clusters should be included in all other element clusters.

At most, a percentage will be requested for information to be used for settling work supplements and work reductions after the contract has been concluded.

Element cluster B5A is only used in the first steps of the process.

As soon as you really start the design process, say from step 2 'concept design' in the RIBA plan of work, you will leave this element cluster and refine it by means of element clusters B5B and B5C.

¹ In Belgium, these costs are known as 'indirect costs' and are usually divided among the various items in the bill of quantities except for the construction site setup itself.

Element cluster B5B General constructionsite costs (GCSC)

Every independent contractor has general construction site costs².

The brochure gives the following definition:

"ABK are costs that are directly related to the construction project, but not directly related to the parts of the construction object. ABK are costs of facilities, means of production and related labour used in the project, not directly attributable to parts of the construction object and which do not remain in the project."

Consequently, we can adopt the following definition:

$$\text{GEC} = \sum^3 (\text{GCSC} + \text{O}^4 + \text{P/R}^5) + \text{CC}^6$$

Implications related to table 1 NI-SfB:2019

Table 1 of NI-SfB:2019 has a full chapter (0-) PROJECT TOTAL⁷ that includes the GCSC. The classification of the GCSC in Table 1 NI-SfB:2019 is different from the one given in the brochure ABK model 2023.

Given that the Agentschap Facilitair Bedrijf prioritises NEN 2699:2017 over Table 1 of the SfB, it follows the brochure's classification.

² Note that the Brochure refers to General Construction Site Costs (ABK) while NEN 2699:2017 talks about element cluster B5B General execution costs (project).

The Agentschap Facilitair Bedrijf prefers the naming from the Brochure which makes a clearer distinction with the title of the containing cluster.

³ Summation over all independent contractors

⁴ General operating expenses

⁵ Profit/risk

⁶ Coordination cost of independent contractors

⁷ In the case of the BB/SfB, this chapter (0-) LAND, PROJECTS includes, on the one hand, the preparation for construction and, on the other hand, data that indicate the project as a whole, such as overview plans but not GCSC!

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Implications related to NEN2699

In NEN 2699:2017, Cluster D4A start-up costs (company relocation) includes the element cluster D4D Cleaning first completion.

In practice, this is usually performed by the pilot contractor and sat here somewhat 'twisted'.

With the new brochure ABK model 2023, this has been resolved and moves to section 3.11 Protection and cleaning where Final Cleaning is very explicitly included.

One-time cost (OTC) versus Time-based cost (TBC)

Both the brochure and the NEN 2699:2017, make an important distinction between one-time costs (OTC) and time-based costs (TBC).

The NEN 2699:2017, as well as the Agentschap Facilitair Bedrijf's white paper, distinguished between the following elements:

- B5B(01) General construction (site) costs: installation
- B5B(02) General construction (site) costs: operation
- B5B(03) General construction (site) costs: removal

The new brochure ABK model 2023 only maintains the distinction between EK and TGK and thus holds construction and demolition together.

This has also been adopted in the amended Object Code.

However, the brochure places this in a matrix while the Agentschap Facilitair Bedrijf works with a list structure to categorise costs. Hence the following indices were added:

- 'a' for one-time costs (OTC)
- 'b' for time-based costs (TBC)

Detailing / choices made by HFB

When reviewing the ABK Model 2023 brochure, the Agentschap Facilitair Bedrijf noted a number of issues that were less clear or seemed difficult to reconcile with day-to-day practice.

The clarifications / choices made by the Agentschap Facilitair Bedrijf are listed below:

- ❑ With regard to the subdivision of the headings, the Agentschap Facilitair Bedrijf has always provided 2 digits so that, if a system automatically sorts alphanumerically, everything remains correctly listed under each other.
- ❑ The Agentschap Facilitair Bedrijf assumes that the costs to win a contract belong to the Overheads (O) of the tendering contractor.
- ❑ Heading 1 Managerial and support staff
This includes all labour costs for employees or workers who have supervisory duties.
I.e. warehouse manager and inspection visits were removed from Heading 3 Construction site equipment and management.
This while operation of transport equipment remains under heading 4 Transport and logistics including labour, consumption and inspection costs.
- ❑ In heading 1, we added sub-element B5B1.05 Handover.
This includes both the creation of the as built file, incl. BIM model and the training of technical staff. This is now also expressed in [month] instead of [tp] because in practice this is spread over a number of months.
- ❑ Temporary drainage facilities for the project to be realised belong to element cluster B1A Foundation. An occasional trench with a submersible pump, if any, near the construction huts belongs to element cluster 2.01 Temporary accommodations.
- ❑ For place descriptions and surveys, the Agentschap Facilitair Bedrijf has added sub-elements B5B3.00a Place description and B5B3.00b Survey each with [tp] as a unit.
- ❑ Heading 3.12 Maintenance period is indicated in the brochure ABK model 2023 as a one-off cost. However, this refers to a period that, moreover, may be different for each project. Hence, the Agentschap Facilitair Bedrijf has opted to view this as a time-based cost.
- ❑ Item 4.07 Transport of equipment to and from the construction site has not been adopted by the Agentschap Facilitair Bedrijf because, for example, if it is decided at the last minute that the client wishes to make rooms available, the OTC of both the assembly/dismantling and the transport to and from the site must be removed in one go. This should therefore be included in section 2.01a Temporary accommodation EK.

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- ❑ The Agentschap Facilitair Bedrijf also chooses to include scaffolding for the façade under section 4 Transport and logistics incl. labour, consumption and inspection costs.
- ❑ Temporary auxiliary constructions such as props and struts are part of the direct cost.

Insurances

There are some differences in how the various insurances above and below the border between Belgium and the Netherlands are named. Below we give an overview and where they are located in NEN 2699:2017.

- ❑ ABR insurance (Belgium) = CAR insurance (NL)
belongs to cluster D2 Supplementary construction costs and more specifically to element cluster D2E Insurances.
In the Netherlands, there is an additional DIC insurance if the client takes the ABR. This insurance serves to cover the difference in policy conditions with the standard ABR that the contractor has. In Belgium, this is never explicitly listed as a cost item but will be included in the O (overhead).
- ❑ BA insurance (BE) = WA insurance (NL)
belongs to cluster B5 General execution costs (GEC) / indirect costs and more specifically to element cluster B5D General costs (company) (O)
- ❑ 10-year architect insurance = PI insurance
this is a mandatory insurance and will be included in the architect's fee
- ❑ 10-year contractor insurance
this is not a mandatory insurance for projects other than housing construction and is accompanied by supplementary supervision by an external control agency.
This cost is therefore best taken separately and belongs to cluster D2 Additional construction costs and more specifically to element cluster D2E Insurance.
The cost of this inspection agency is in element D2B4 Supervision.

Delivery method versus NEN 2699

Contracting

A contracting is a purely executive order.

The associated costs in NEN 2699 are located in the following places:

- Cluster A2 for integral demolition works, dismantling down to the skeleton and sanitation works
- Cluster A3 for civil engineering works
- Cluster B1 to B4 for direct costs (i.e. production)
- Cluster B5 for indirect costs (i.e. GEC)

ABR insurance always belongs to element cluster D2E insurance regardless of who takes it.

Additional ground surveys always belong to element cluster D2B fees (plan development and guidance).

VAT always belongs to element cluster F taxes.

Design & Build

Design & Build contracts have a conception assignment in addition to a purely executive assignment.

The costs related to the conception are integrally recorded under cluster D2 Additional construction costs.

Design, Build, Finance & Maintenance

The following sections also need to be filled in for DBFM assignments:

- Heading G financing costs
- Cluster X1000 space and infrastructure

Design, Build, Finance, Maintenance & Operate

Finally, the cluster X2000 people and organisation also needs to be filled in for DBFMO contracts.

For all contract types, the investor/client should estimate the section E contingencies.