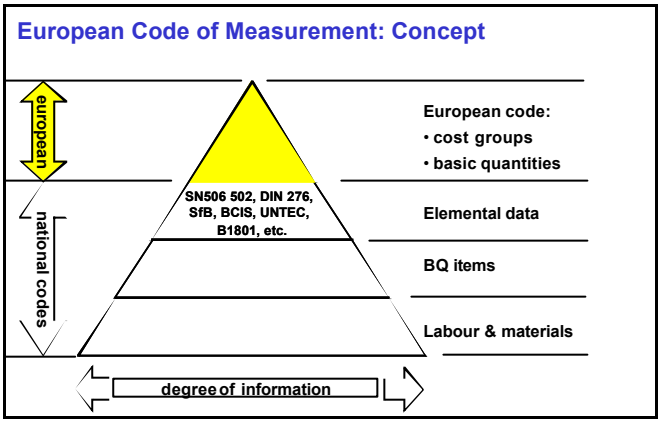
The CEEC Code of Measurement for Cost Planning

The European Committee for Construction Economics CEEC was set up over 20 years ago as a pan European group of professional Associations in the area of construction economics. Switzerland is represented by the Swiss Association for Construction Economics AEC (Association suisse pour l'économie de la construction / Schweizerische Gesellschaft für Bauökonomie). The current CEEC President is Jaques Moreaux from the French organisation UNTEC (Union Nationale des Economistes de la Construction et des Coordonnateurs).

Two important aims of the CEEC are harmonisation of working methods and the exchange of information.

Harmonisation doesn't have to mean we all end up doing things in exactly the same way. Indeed this would be the end of any innovation. The Code of Measurement for Cost Planning produced by a CEEC working group creates a co-ordinated overall framework, enabling exchange of data at high level, while still permitting differing national approaches and new innovative local developments.

The CEEC-Code provides a standard basis for the sub-division of costs and for measurement of basic quantities of buildings for pan-European budgeting, comparison and analysis at management level. The structure is organised to permit the use of existing national classifications at a more detailed level of information (subsidiarity principle).



The current situation can be summarised as follows:

- In European countries different rules and definitions exist for assessing costs and quantities
- Due to the differing national definitions data is difficult to interpret and comparative data likely to be inaccurate
- Comparative data is an eminently important basis for decisions by Construction Economists, Investors, Planners, Administrators and Politicians.

A few years ago a seminar at the Swiss Federal Institute of Technology in Lausanne was organised together with CEEC to highlight the differences. The CEEC members were all asked to provide an estimate for a standardised building using their individual national costing systems and local price levels. The results presented and the ensuing discussion produced some interesting results:

- All countries used elemental estimating or cost planning systems
- The elements used are similar, but are grouped and coded with vastly differing cost classification sytems
- Each country considers their system of classification and measurement as superior to the others
- The often used comparison of square meter prices is misleading as the floor areas are measured differently (see illustration below)

Differing floor areas measured for the same building using local definitions:		
- United Kingdom	2'585 m2	(100%)
- Switzerland	2'875 m2	(111%)
- Holland	3'007 m2	(116%)
- France	3'412 m2	(132%)
- Finland	2'758 m2	(107%)
- Denmark / Spain **	1'800 m2	(70%)

** Definition does not include basement floors!

The CEEC code aims to clarify matters by defining the typical areas used and cross-referencing to local definitions. As a result if areas are measured differently, the differences can be identified, permitting adjustment of square meter prices.

Definitions of quantities have been restricted to twelve basic quantities for site areas, floor areas and functional units. Elemental quantities have not been defined, as local definitions may be more suitable for analysis of elemental unit rates.

	Basic quantities	**Quantités de base**	**Grundmengen**
	SITE	**TERRAIN**	**GRUNDSTÜCK**
#01	Site area	Surface terrain	Grundstücksfläche
#02	Footprint area	Surface bâtie	Gebäudegrundfläche
	FLOOR AREAS	**SURFACES DE PLANCHER**	**GESCHOSSFLÄCHEN**
#03	Floor area not fully enclosed	Surface plancher externe	Außen-Geschoßfläche
#04	Gross external floor area	Surface plancher brute	Geschoßfläche brutto
#05	Gross internal floor area	Surface plancher nette	Geschoßfläche netto
#06	Area of internal divisions	Surface de construction	Konstruktionsfläche der Innenwände
#07	Area ancillary to main function	Surface utile secondaire	Nebennutzfläche
#08	Ancillary area for services	Surface installations	Funktionsfläche
#09	Circulation area	Surface dégagement	Verkehrsfläche
#10	Usable floor area	Surface utile principale	Hauptnutzfläche
	FUNCTIONAL UNITS	**UNITÉS FUNCTIONELLES**	**FUNKTIONALE EINHEITEN**
#11	Primary functional units	1. Unités fonctionnelles	Primäre funktionale Einheiten
#12	Secondary functional units	2. Unités fonctionnelles	Sekundäre funktionale Einheiten

Excerpt from definitions:

#04 m2 Gross external floor area

Definition

The area of all floor space which is covered and enclosed to its full height, including the area of basements, measured to the outside face of outside walls and including the area of all internal walls, columns and the like measured at each floor level, excluding floor area not fully enclosed (see #03).

Germanv: DIN 277 / 1987
m2 Brutto-Grundfläche BGF a
Ireland
m2 not defined
Switzerland SIA 504 416 / 2003
m2 Geschossfläche GF /
Surface plancher SP
United Kinadom:
m2 RICS: Code of Measurement Practice GEA

#04 m2 Surface plancher brute

Définition

Toutes les surfaces de plancher couvertes et comprises dans le volume (fermées de toute part), comprennent les surfaces des sous-sols, mesurées contre la face extérieure des murs (HO, hors oeuvre) et comprennent les surfaces des murs internes, colonnes et toutes les surfaces mesurées à tous les niveaux.

Allemande: DIN 277 / 1987
m2 Brutto-Grundfläche BGF a
Irlande
m2 non défini
Suisse: SIA 504 416 / 2003
m2 Surface plancher SP

Rovaume Uni
m2 RICS: Code of Measurement Practice GEA

#04 m2 Geschoßfläche brutto

Definition

Die Summe der Grundrissflächen aller Grundrissebenen eines Bauwerks, die überdeckt und allseitig in voller Höhe umschlossen sind, einschließlich unterirdischer Flächen, wird bis zur Außenkante der Außenwände gemessen und schließt die Konstruktionsflächen für Innenwände, -stützen usw. jedes Geschosses ein. Außengeschoßfläche ist nicht enthalten (siehe #03).

Deutschland: DIN 277 / 1987
m2 Brutto-Grundfläche BGF a
Irland
m2 nicht definiert
Schweiz: SIA 504 416/2003
m2 Geschossfläche GF

Grossbritannien
m2 RICS: Code of Measurement Practice GEA

#05 m2 Gross internal floor area

Definition

Gross external floor area less the area of the external walls

Germany: DIN 277 / 1987
m2 not defined
Ireland
m2 National Standard Building Elements 3rd edition
Switzerland SIA 504 416 / 2003
m2 not defined
United Kingdom:
m2 RICS: Code of Measurement Practice GIA
m2 BCIS: Gross floor area

#05 m2 Surface plancher nette

Définition

Surface de plancher nette sans la surface des murs extérieurs.

Allemande: DIN 277 / 1987
m2 non défini
Irlande
m2 National Standard Building Elements 3rd edition
Suisse: SIA 504 416 / 2003
m2 non défini
Royaume Uni
m2 RICS: Code of Measurement Practice GIA
m2 BCIS: Gross floor area

#05 m2 Geschoßfläche netto

Definition

Geschoßfläche brutto / Brutto-Grundfläche ausschließlich der Konstruktionsfläche der Außenwände.

Deutschland: DIN 277 / 1987
m2 nicht definiert
Irland
m2 National Standard Building Elements 3rd edition
Schweiz: SIA 504 416/2003
m2 nicht definiert
Grossbritannien
m2 RICS: Code of Measurement Practice GIA
m2 BCIS: Gross floor area

On the cost side, CEEC-Code provides a framework to cover the global cost of buildings. It goes further than traditional practice in some countries and groups costs into four blocks: the construction costs, design and incidental costs, costs in use, land and finance. This permits overall project appraisal and if items are not included in individual countries this will be clearly apparent and avoid misunderstandings on the overall scope of the costs.

	Cost groups	Groupes de coût	Kostengruppen
	CONSTRUCTION COSTS	**COUTS DE CONSTRUCTION**	**BAUKONSTRUKTION**
A	Preliminaries	Installations de chantier, échafaudages	Baustelleneinrichtungen und allgemeine Kosten
B	Substructure	Fondations, infrastructure de base	Struktur bis Oberkante Bodenplatte
C	External superstructure/envelope	Structure externe / enveloppe	Struktur außen oberhalb Bodenplatte
D	Internal superstructure	Structure interne	Struktur innen oberhalb Bodenplatte
E	Internal finishings	Finitions intérieures	Innere Bekleidungen
F	Services installations	Installations	Installationen und Transportanlagen
G	Special equipment	Equipement spécifiques	Spezielle Ausrüstungen
H	Furniture and fittings	Mobilier, Agencement	Ausstattungen und Einbauten
I	Site and external works	Aménagements extérieurs	Außenanlagen
J	Construction contingencies	Divers et imprévus (construction)	Bau-Reserven
K	Taxes on construction	Taxes sur les coûts de construction.	Steuern auf Baukonstruktionen
	DESIGN AND INCIDENTAL COSTS	**HONORAIRES ET FRAIS GENERAUX**	**PLANUNGS- UND BAUNEBENKOSTEN**
L	Design Team fees	Honoraires de conception et de construction	Planungshonorare
M	Ancillary costs and charges	Charges et Frais Généraux	Baunebenkosten
N	Project Budget contingencies	Réserves (variation économique)	Budget Rückstellungen und Reserven
O	Taxes on design and incidental costs	Taxes sur Charges et coûts auxiliaires	Steuern auf Planungs- und Baunebenkosten
	COSTS IN USE	**COUTS D'EXPLOITATION**	**NUTZUNGSKOSTEN**
P	Maintenance	Maintenance	Unterhalt
Q	Operation	Coûts d'exploitation	Betrieb
R	Disposal	Vente et rendement	Veräußerung
S	Decommissioning	Démolition	Rückbau
T	Taxes	Taxes	Steuern auf Nutzungskosten
	LAND AND FINANCE	**BIEN-FONDS & FINANCES**	**GRUNDSTÜCK UND LAND**
U	Land costs	Coût du bien-fond	Grundstückskosten
V	Finance	Finance	Finanzierung
W	Grants and subsidies	Aide et subsides	Beiträge und Subventionen
X	Taxes on land	Taxes sur le bien-fonds et finance	Steuern auf Grundstück und Land

The costs are again cross-referenced to existing local definitions.

Excerpt from definitions of cost groups:

E Internal finishings	**E Finitions intérieures**	**E Innere Bekleidungen**
Definition	***Définition***	***Definition***
Internal floor, wall and ceiling finishes including screeds, raised floors, internal panelling and cladding, suspended ceilings, decoration and finishes to balconies.	Les finitions des dalles et plafonds comprenant chapes, revêtements de sols, panneaux intérieurs revêtement de parois, plafonds suspendus, décoration, finition des balcons.	Innenbekleidungen der Böden, Wände und Decken einschließlich Estriche, Doppelböden, Innenpaneele und -verkleidungen, abhängehängte Decken, Dekorationen und Verkleidungen von Balkonen
Belgium / Switzerland SN 506.502/2000	***Belgique / Suisse: SN 506.502/2000***	***Belgien / Schweiz: SN 506.501/2000***
M3 Floor finishes	M3 Revêtements de sols	M3 Bodenbeläge
M4 Wall finishes	M4 Revêtements de parois	M4 Wandbekleidungen
M5 Ceiling finishes	M5 Plafonds	M5 Deckenbekleidungen
Germany: DIN 276 / 1993	***Allemagne: DIN 276 / 1993***	***Deutschland: DIN 276 / 1993***
336 Internal wall linings (of external walls)	336 Revêtement de mur extérieur, à l'intérieur	336 Außenwandbekleidungen, innen
345 Internal linings (of internal walls)	345 Revêtement de cloison	345 Innenwandbekleidungen
352 Floor coverings	352 Garnitures de plafonds	352 Deckenbeläge
353 Ceiling linings	353 Revêtement de plafonds	353 Deckenbekleidungen
364 Roof linings	364 Revêtement de toit	364 Dachbekleidungen
Holland	***Hollande***	***Niederlande***
- Architectural costs (sub-division)	- Dépenses architecturales (subdivision)	- Architectural costs (sub-division)
- Construction costs (sub-division)	- Coûts de construction (subdivision)	- Construction costs (sub-division)
Ireland	***Irelande***	***Irland***
35 Suspended ceilings	35 Plafonds Suspendus	35 Suspended ceilings
42 Wall Finishes Internally	42 Finitions Murales Intérieurement	42 Wall Finishes Internally
43 Floor Finishes	43 Finitions de Plancher(d'Étage)	43 Floor Finishes
44 Stairs,ramps finishes	44 Escalier, rampe Finitions	44 Stairs,ramps finishes
45 Ceiling Finishes	45 Finitions de Plafond	45 Ceiling Finishes
United Kingdom: BCIS	***Royaume Uni: BCIS***	***Grossbritannien: BCIS***
3A Wall finishes	3A Finitions murales	3A Wall finishes
3B Floor finishes	3B Finitions de plancher(d'étage)	3B Floor finishes
3C Ceiling finishes	3C Finitions de plafond	3C Ceiling finishes

The code also includes a standard format for the analysis of project costs, which could lead to the creation of pan European databases with genuinely comparative data.

	Project reference	Référence du projet	Projektreferenz		
	Country of origin	Pays d'origine	Herkunftsland		
	Location	Lieu	Standort		
	Currency / Price base date	Monnaie / date de base	Währung / Preisstand	€	
	Evaluation period (from / to)	Période évaluée	Bewertungszeitraum (von / bis)		
	Period for costs in use (years)	Période d'exploitation calculées (ans)	Zeitraum für Nutzungskosten (Jahre)	...	
	Quantity used for analysis	Quantités pour analyse	Grundmenge für die Analyse	# ...	
	Refurbishment area (%)	Pourcentage de surfaces renovées	Flächentanteil Bauerneuerung		%
	Programme / Planning / Programm:				
	Description of works and quality / Descriptif d'execution et de qualité / Ausführungs- und Qualitätsbeschreibung:				
	Basic quantities	**Quantités de base**	**Grundmengen**		
#01	Site area	Surface terrain	Grundstücksfläche		m2
#02	Footprint area	Surface bâtie	Gebäudegrundfläche		m2
#03	Gross external floor area	Surface plancher brute	Geschoßfläche brutto		m2
#04	Gross internal floor area	Surface plancher nette	Geschoßfläche netto		m2
#05	Floor area not fully enclosed	Surface plancher externe	Außen-Geschoßfläche		m2
#06	Area of internal divisions	Surface de construction	Konstruktionsfläche der Innenwände		m2
#07	Area ancillary to main function	Surface utile secondaire	Nebennutzfläche		m2
#08	Ancillary area for services	Surface installations	Funktionsfläche		m2
#09	Circulation area	Surface dégagement	Verkehrsfläche		m2
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#11	Primary functional units	1. Unités fonctionnelles	Primäre funktionale Einheiten		
#12	Secondary functional units	2. Unités fonctionnelles	Sekundäre funktionale Einheiten		

	Cost groups	**Groupes de coût**	**Kostengruppen**	**€**	**€/m2 # ...**
	CONSTRUCTION COSTS	**COUTS DE CONSTRUCTION**	**BAUKONSTRUKTION**		
A	Preliminaries	Installations de chantier, échafaudages	Baustelleneinrichtungen / allg. Kosten		
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K	Taxes on construction	Taxes sur les coûts de construction.	Steuern auf Baukonstruktionen		
	DESIGN AND INCIDENTAL COSTS	**HONORAIRES ET FRAIS GENERAUX**	**PLANUNGS- UND BAUNEBENKOSTEN**		
L	Design Team fees	Honoraires de conception et de construction	Planungshonorare		
M	Ancillary costs and charges	Charges et Frais Généraux	Baunebenkosten		
N	Project Budget contingencies	Réserves (variation économique)	Budget Rückstellungen und Reserven		
O	Taxes on design and incidental costs	Taxes sur Charges et coûts auxiliaires	Steuern auf Planungs- und Nebenkosten		
	COSTS IN USE (Total ... years)	**COUTS D'EXPLOITATION (Total ... ans)**	**NUTZUNGSKOSTEN (Total ... Jahre)**		
P	Maintenance	Maintenance	Unterhalt		
Q	Operation	Coûts d'exploitation	Betrieb		
R	Disposal	Vente et rendement	Veräußerung		
S	Decommissioning	Démolition	Rückbau		
T	Taxes	Taxes	Steuern auf Nutzungskosten		
	LAND AND FINANCE	**BIEN-FONDS & FINANCES**	**GRUNDSTÜCK UND LAND**		
U	Land costs	Coût du bien-fond	Grundstückskosten		
V	Finance	Finance	Finanzierung		

The framework may also provide an incentive to take into account global costs and assist in preventing investment decisions being made only on the basis of the short-term initial expenditure on construction.

CEEC has issued the CEEC-Code as a consultative document. It is to be hoped that his will put into practical use by Construction Economists, other Property Professionals, Investors and Clients throughout Europe and lead to a better understanding between all property professionals.

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