Implementation of IMIP products in National Recognised Official Tools

Construction Price Bank (BDC)

Catalogue of Construction Elements (CEC)

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Interreg SUDOE IMIP
(SOE3/P3/E0963)

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Final event IMIP project

Implementation in National Recognised Official tools

National Recognized Official Tools

To facilitate the use of IMIP products for prescribers they will be implemented in tools developed by the Valencian Institute of Building (IVE):

Construction Price Bank (BDC in Spanish)

- Local and online: https://bdc.f-ive.es/

- Free for consultation

- Used in projects of public contracts

- Purpose: Develop bills of quantities

Catalogue of Construction Elements (CEC in Spanish)

- Online: https://cec.f-ive.es/

- Free for consultation and use

- Purpose: Calculate physical properties

                               Export to IFC

Implementation in the Construction Price Bank (BDC)

Implementation in National Recognised Official tools

IMIP panel combinations

Type	Product	Number of combinations	Type Board 1	Thickness Board 1 (mm)	Type Inner	Thickness inner (mm)	Type Board 2	Thickness Board 2 (mm)
A	Roof	6	CLT-OSB	46	Cork	100	CLT-OSB	46
			CLT-OSB	46	Cork + ribs	200	OSB	18
			CLT	60	Cork + ribs	200	OSB	18
			CLT	100	Cork + ribs	200	OSB	18
			CLT	120	Cork + ribs	200	OSB	18
			CLT	140	Cork + ribs	200	OSB	18
B	Sandwich (partition / small span roof)	1	CLT-OSB	46	Cork	100	CLT-OSB	46
C	Slab / Floor	25	CLT-OSB	46	Cork + ribs	200	CLT-OSB	46
			CLT	60	Cork + ribs	200	CLT	60
			CLT	100	Cork + ribs	200	CLT	100
			CLT	120	Cork + ribs	200	CLT	120
			CLT	140	Cork + ribs	200	CLT	140
D	Wall / Façade	25	CLT-OSB	46	Cork	60	---	---
			CLT	60	Cork	80	---	---
			CLT	100	Cork	100	---	---
			CLT	120	Cork	120	---	---
			CLT	140	Cork	140	---	---

Information provided for each job item

- Summary
- Description
- Units of measure
- Unit price
- Break down
  - Unit concepts
    - Labour
    - Material
    - Ancillary direct costs
  - Quantities

- Combinable parameters in blue
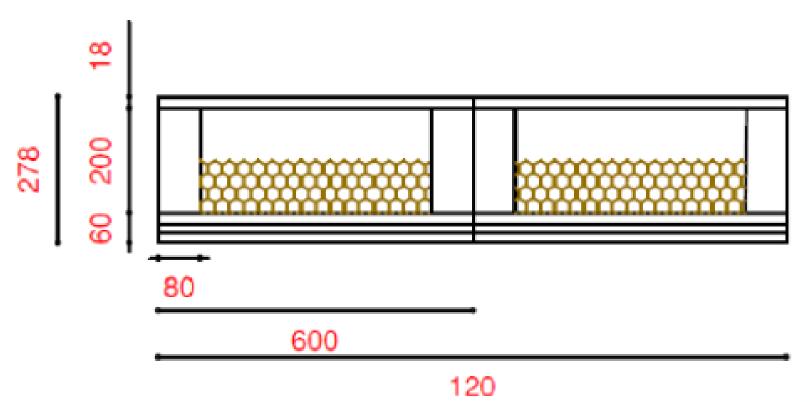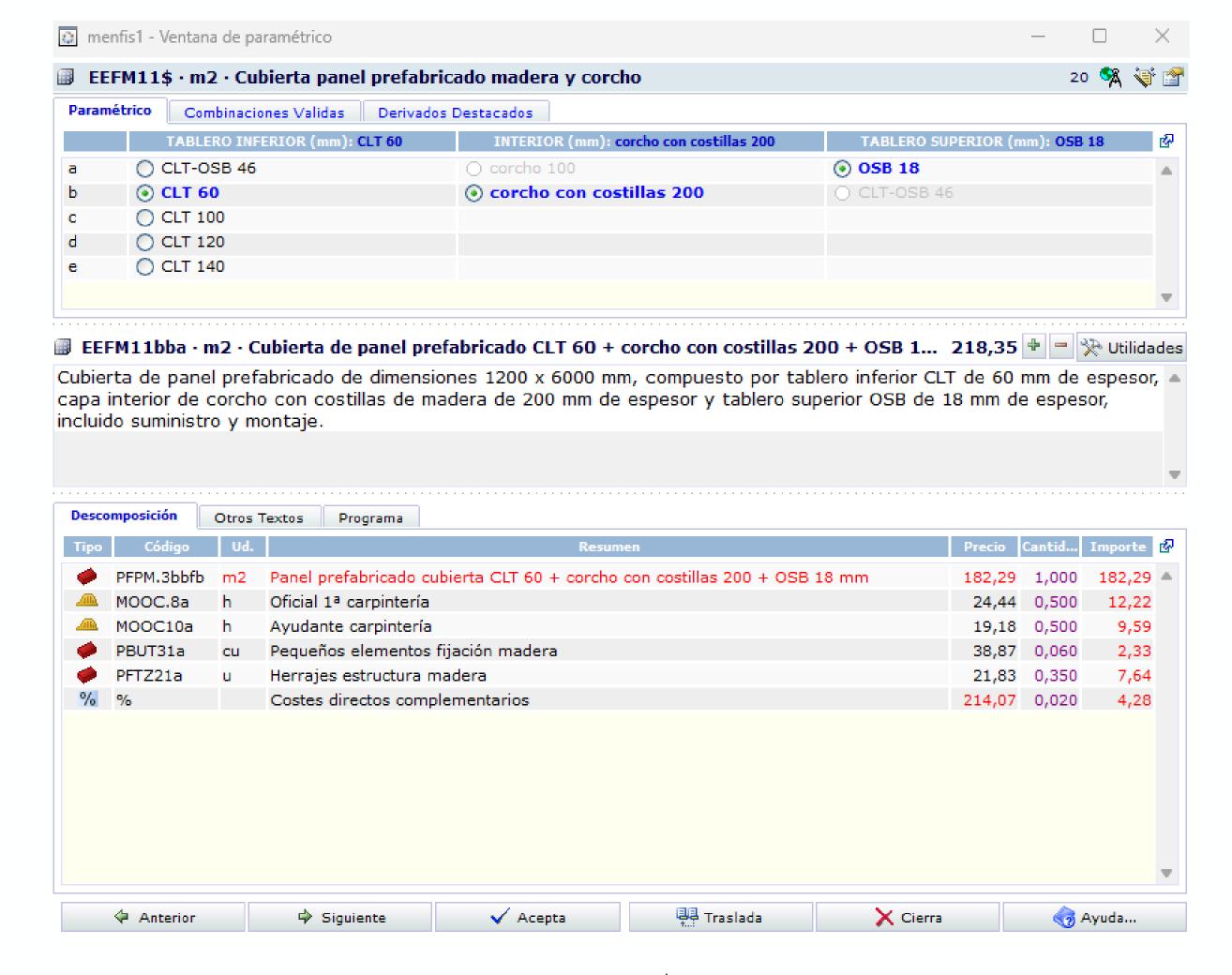- The Type B Sandwich can be used as a partition or as a small span roof

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Implementation in National Recognised Official tools

Construction Price Bank

Type A (Roof)

- Code: EEFM11$ (parametric)

- Prefabricated wood and cork panels for roofs

Example

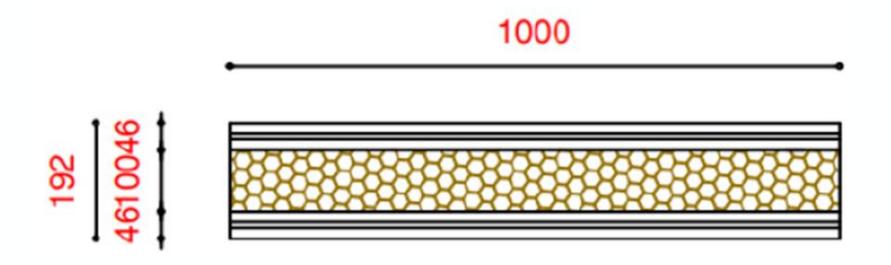- CLT60 mm + Cork+ribs 200mm + OSB 18mm

- Unique code*: EEFM11bba

*Unique URL for this job item in the BDC23 online: https://bdc.f-ive.es/BDC23/1/EEFM11$/bba

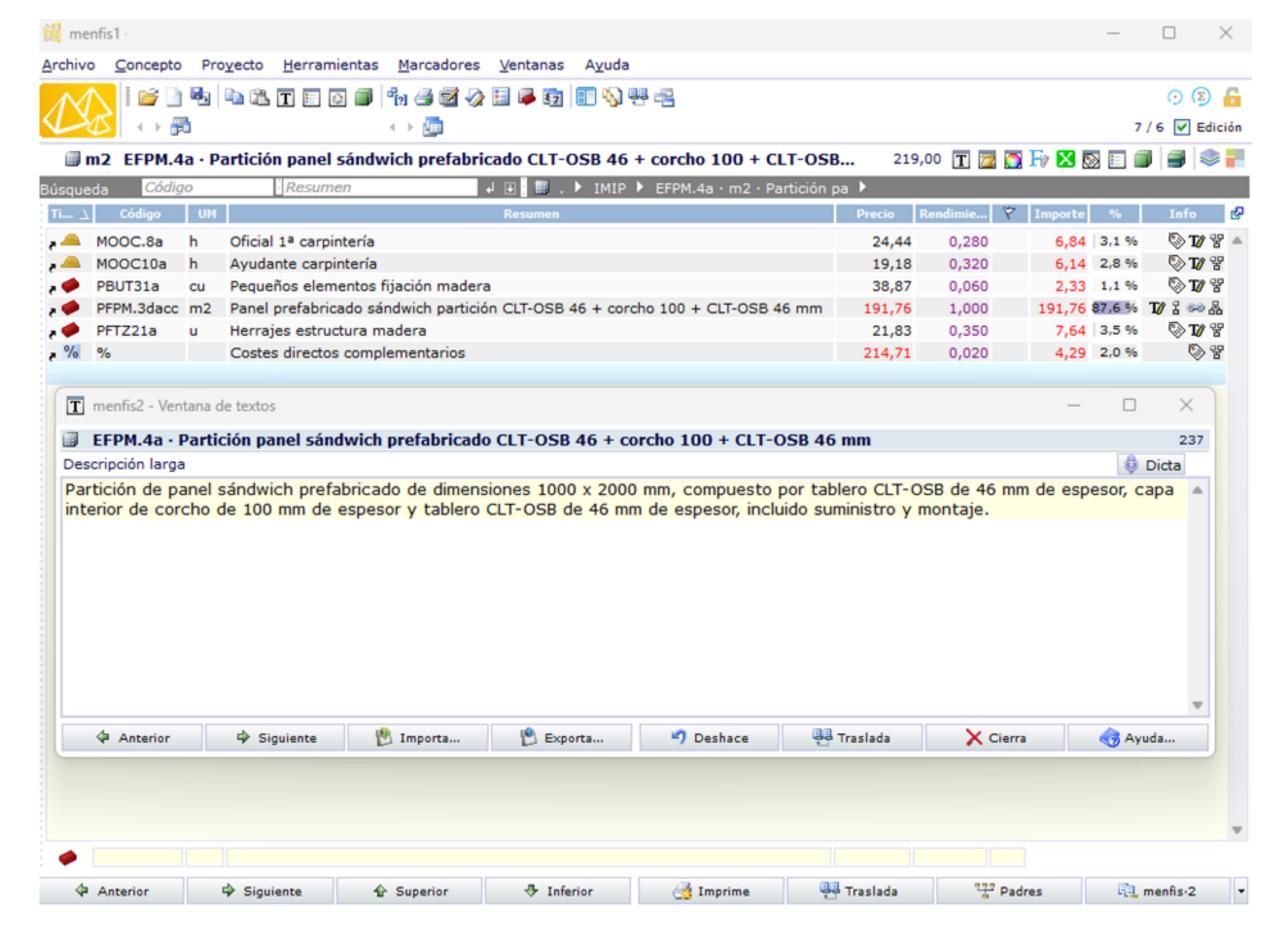# Implementation in National Recognised Official tools

Construction Price Bank

Type B (Sandwich)

- Code: EFPM.4a (non-parametric)

- Sandwich for partitions or small spans roofs

Example
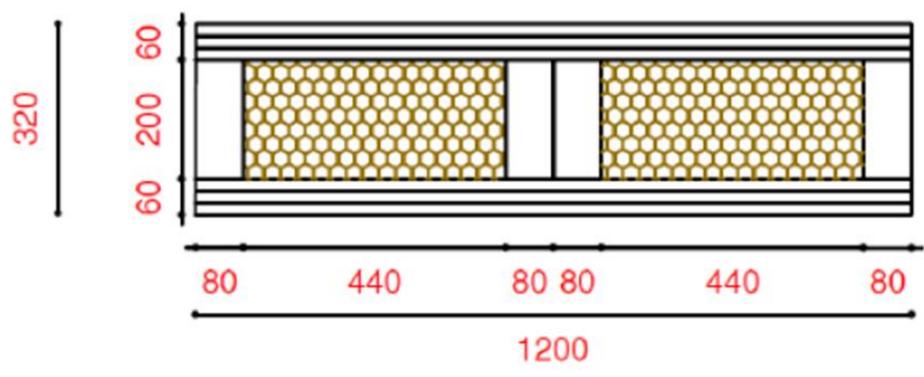
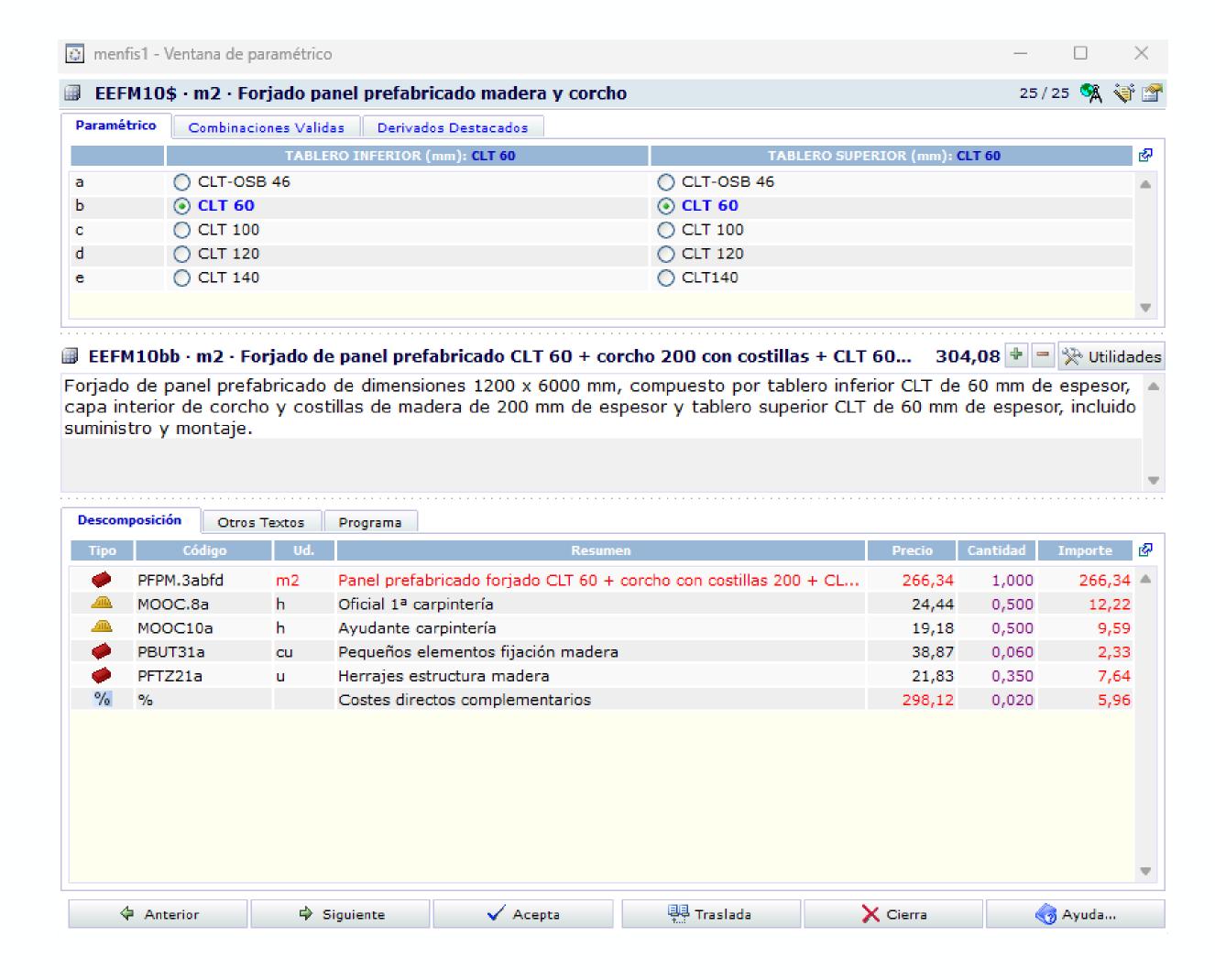- CLT-OSB 46mm + Cork 100mm + CLT-OSB 46mm

- Unique code*: EFPM.4a

Implementation in National Recognised Official tools

Construction Price Bank

Type C (Slab / Floor)

- Code: EEFM10$ (parametric)

- Prefabricated wood and cork panels for slabs

Example

- CLT 60mm + Cork+ribs 200mm + CLT 60mm

- Unique code*: EEFM10bb

*Unique URL for this job item in the BDC23 online: https://bdc.f-ive.es/BDC23/1/EEFM10$/bb

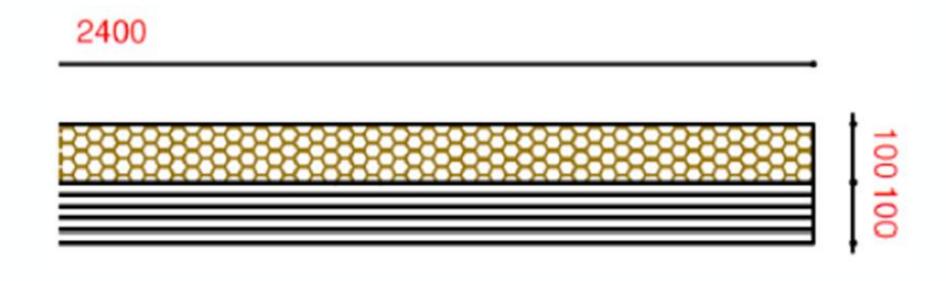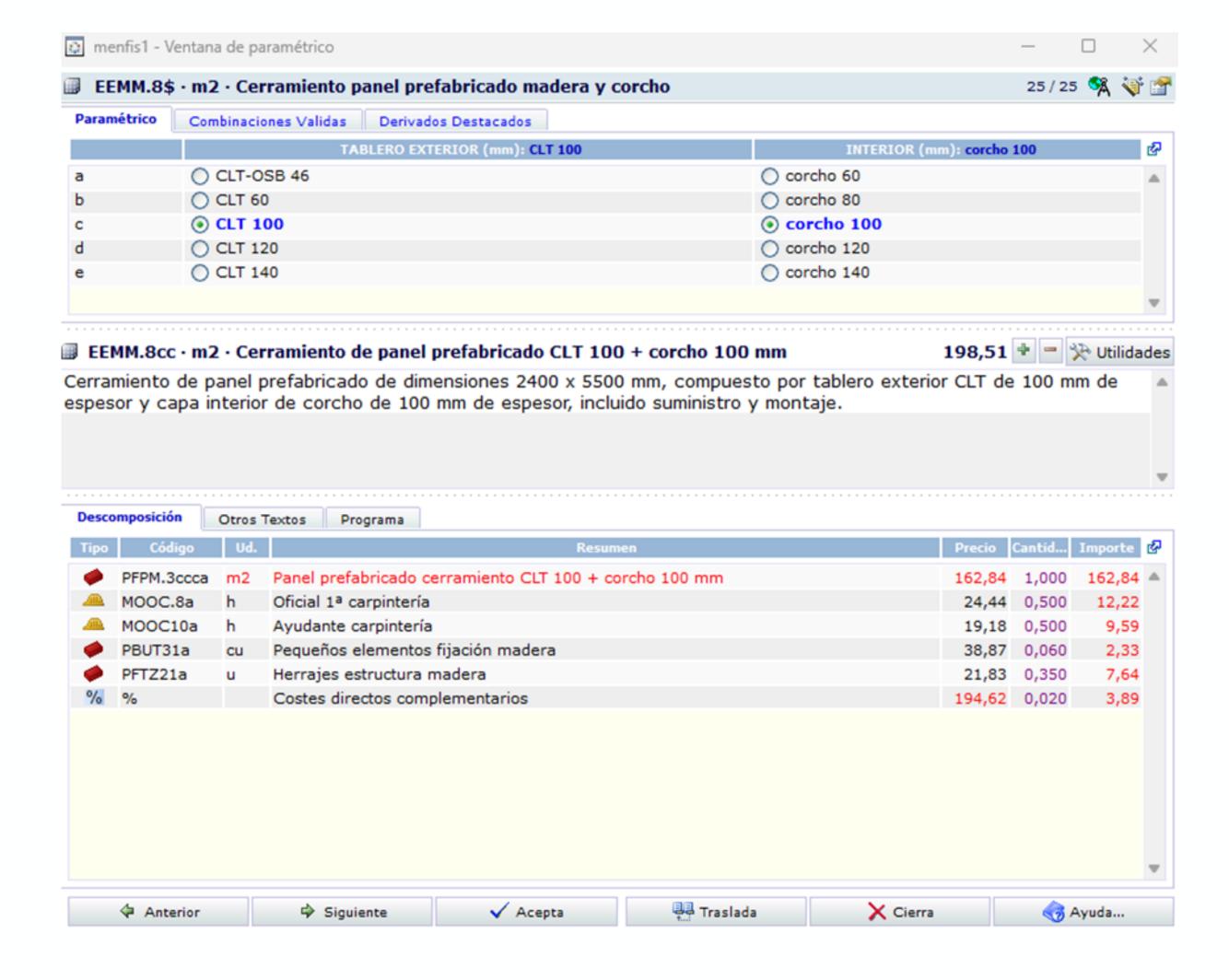# Implementation in National Recognised Official tools

Construction Price Bank

Type D (Wall / Façade)

- Code: EEMM.8$ (parametric)

- Prefabricated wood and cork panels for walls

Example

- CLT 100mm + Cork 100mm

- Unique code*: EEMM.8cc

Implementation in National Recognised Official tools

Construction Price Bank

Summary

- 57 IMIP panel combinations fully described for bills of quantities

- Condensed in 3 parametric job items + 1 non-parametric job item

Type	Product	Number of combinations	BDC code
A	Roof	6	EEFM11$
B	Sandwich	1	EFPM.4a
C	Slab / Floor	25	EEFM10&
D	Wall / Façade	25	EFMM.8$

- Compatibility with construction management programs from the FIEBDC-3 format association (file extension: BC3)

FIE▶◀BDC

- IMIP panels will be included in the next BDC edition and will have their own unique URL
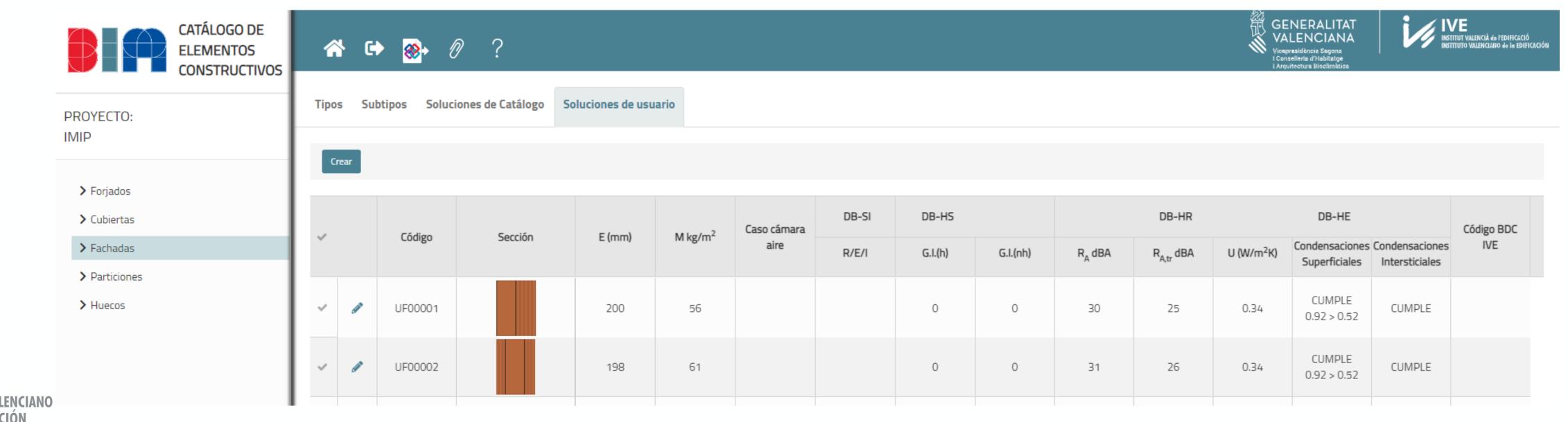
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Implementation in the Catalogue of Construction Elements (CEC)

Implementation in National Recognised Official tools

Catalogue of Construction Elements

- The tool has preloaded constructive solutions

- The tool also allows to create user-defined constructive solutions

- Each solution has its physical properties automatically calculated

- Each solution can be exported to IFC to be used in BIM programs

- The current version of the CEC only allows the creation of IMIP panels Type B (Sandwich) and D (Wall / Façade) as user-defined constructive solutions, which are given as examples
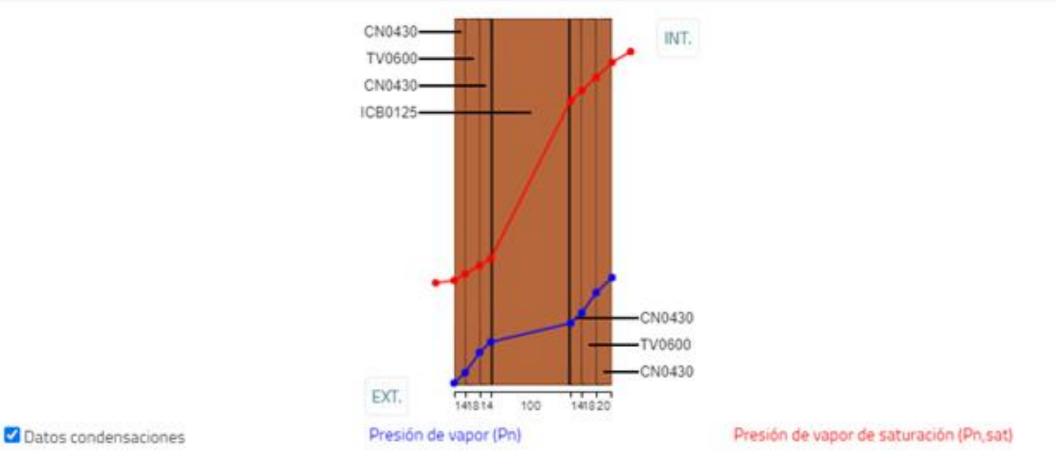
Catalogue of Construction Elements

Type B (Sandwich)

- User-defined element by layer
  - Material
  - Thickness

- The tool calculates its physical properties
  - Density
  - Thermal transmittance
  - Acoustic insulation
  - Vapour pressure
  - Saturation vapour pressure

- The user can export the constructive solution and its properties to IFC

Detalle de la solución: UF00002

E (mm):	198
M (kg/m³):	61
R$_A$ (dbA):	31
Temperatura Capital:	10.4
Humidad Relativa Capital:	0.63
Temperatura:	10.4
Humedad Relativa Exterior:	0.63

Pe:	793.87	Pe,sat:	1260.12
Pse:	793.87	Pse,sat:	1271.14
Pi:	1284.42	Pi,sat:	2335.32

☑ Datos condensaciones   Presión de vapor (Pn)   Presión de vapor de saturación (Pn,sat)

Leyenda	Material	Espesor (mm)	Pn	Pn,sat	CUMPLE
CN0430	Conífera ligera d < 435 kg/m3	14	842.58	1301.25	SÍ
TV0600	Tablero de virutas orientadas [OSB] d < 650 kg/m3	18	936.52	1340.87	SÍ
CN0430	Conífera ligera d < 435 kg/m3	14	985.22	1372.42	SÍ
ICB0125	Corcho Expandido puro 100 < d < 150	100	1072.20	2106.87	SÍ
CN0430	Conífera ligera d < 435 kg/m3	14	1120.91	2153.73	SÍ
TV0600	Tablero de virutas orientadas [OSB] d < 650 kg/m3	18	1214.84	2215.32	SÍ
CN0430	Conífera ligera d < 435 kg/m3	20	1284.42	2285.56	SÍ

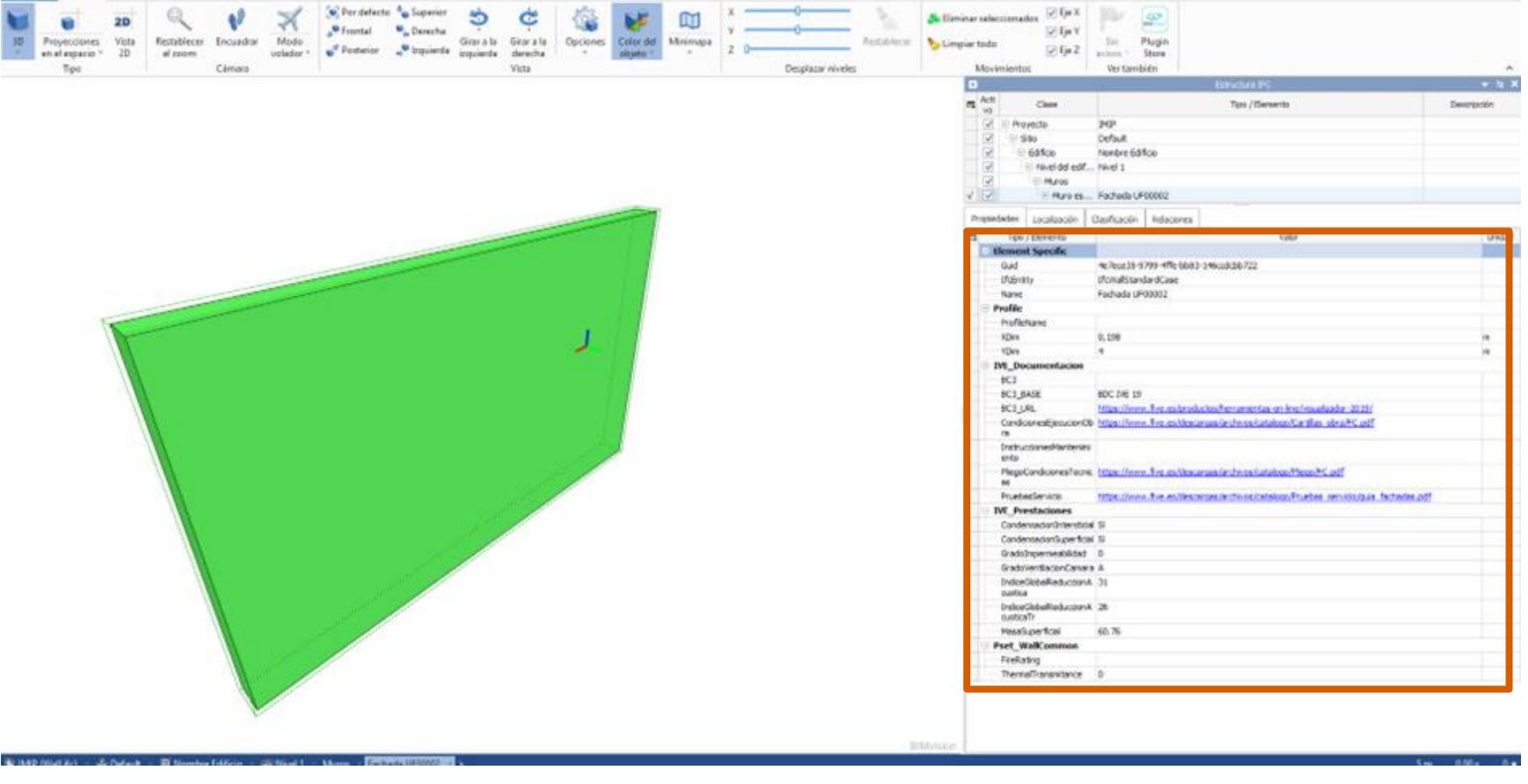Exportar   Cerrar

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Catalogue of Construction Elements

Type B (Sandwich)

- IFC with Property Sets

  - Calculated physical properties

  - Links to related publications from IVE
    - BDC online
    - Conditions of execution of building work (PDF)
    - Project scope statements (PDF)
    - Service tests (PDF)

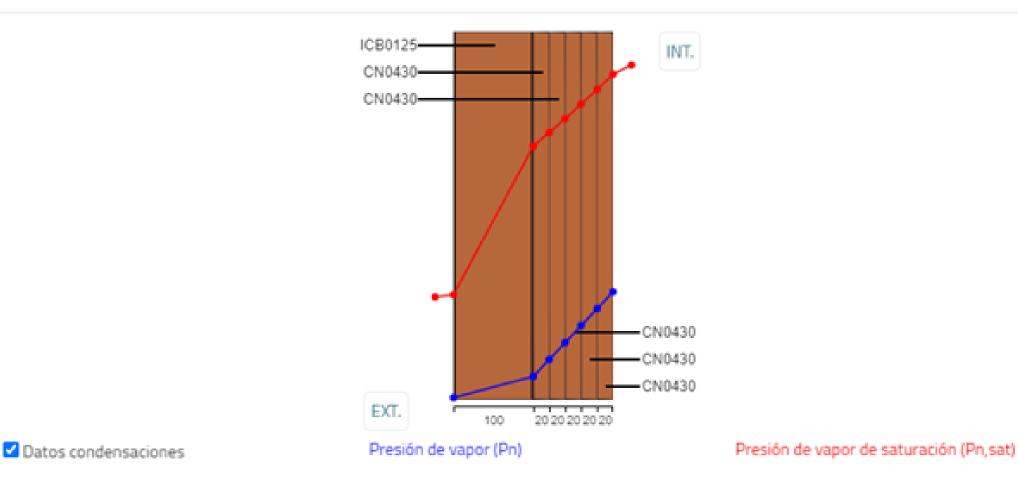# Implementation in National Recognised Official tools

Catalogue of Construction Elements

Type D (Wall / Façade)

- **User-defined element by layer**
  - Material
  - Thickness

- **The tool calculates its physical properties**
  - Density
  - Thermal transmittance
  - Acoustic insulation
  - Vapour pressure
  - Saturation vapour pressure

- **The user can export the constructive solution and its properties to IFC**

Detalle de la solución: UF00001

E (mm):	200
M (kg/m³):	56
R$_A$ (dbA):	30
Temperatura Capital:	10.4
Humidad Relativa Capital:	0.63
Temperatura:	10.4
Humedad Relativa Exterior:	0.63

Pe:	793.87	Pe,sat:	1260.12
Pse:	793.87	Pse,sat:	1271.14
Pi:	1284.42	Pi,sat:	2335.32

☑ Datos condensaciones   Presión de vapor (Pn)   Presión de vapor de saturación (Pn,sat)

Leyenda	Material	Espesor (mm)	Pn	Pn,sat	CUMPLE
ICB0125	Corcho Expandido puro 100 < d < 150	100	891.98	1959.12	SÍ
CN0430	Conífera ligera d < 435 kg/m3	20	970.47	2022.20	SÍ
CN0430	Conífera ligera d < 435 kg/m3	20	1048.96	2087.06	SÍ
CN0430	Conífera ligera d < 435 kg/m3	20	1127.45	2153.73	SÍ
CN0430	Conífera ligera d < 435 kg/m3	20	1205.94	2222.26	SÍ
CN0430	Conífera ligera d < 435 kg/m3	20	1284.42	2292.69	SÍ

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Implementation in National Recognised Official tools
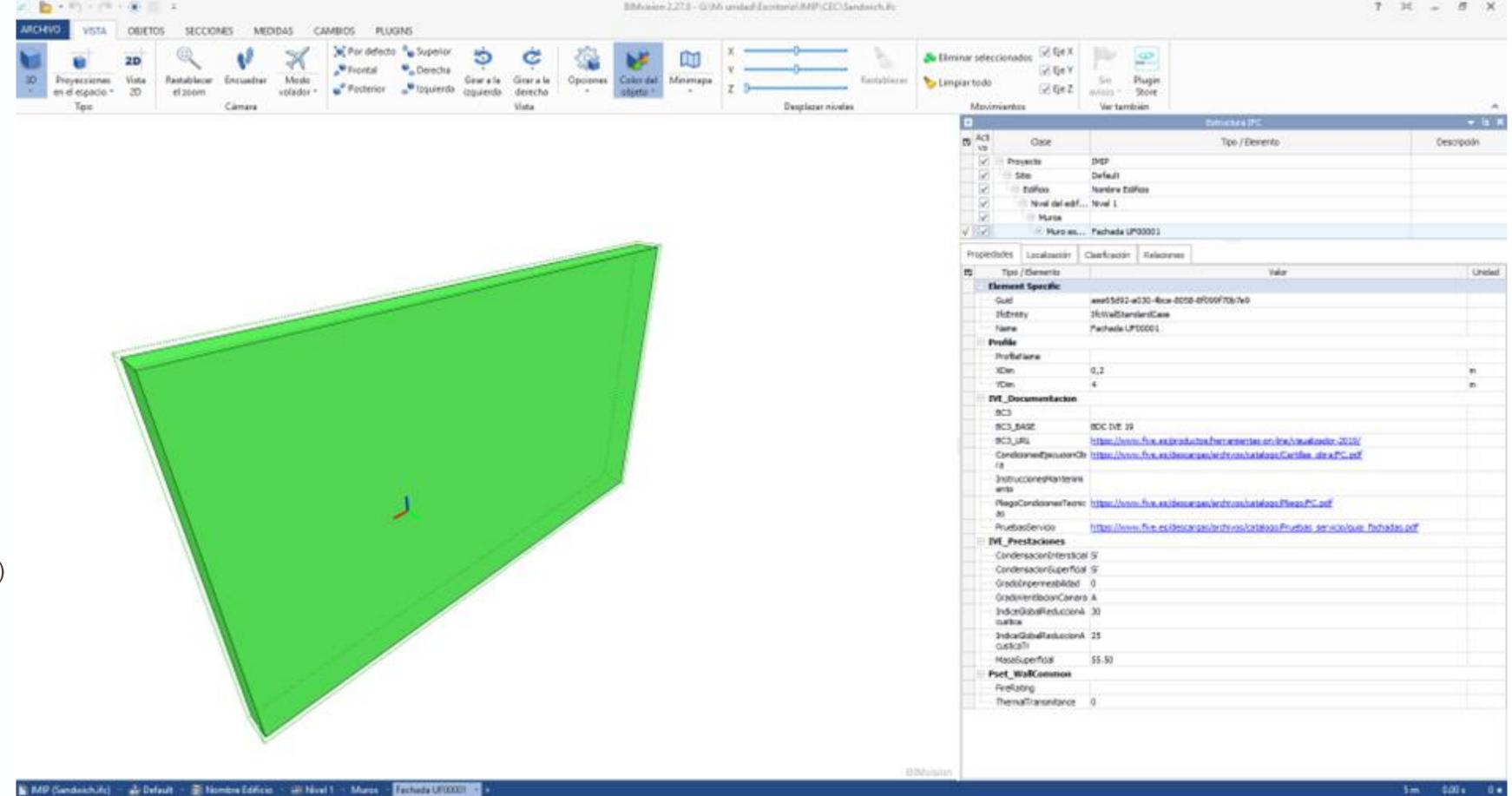
Catalogue of Construction Elements

Type D (Wall / Façade)

- IFC with Property Sets

  - Calculated physical properties

  - Links to related publications from IVE
    - BDC online
    - Conditions of execution of building work (PDF)
    - Project scope statements (PDF)
    - Service tests (PDF)

Catalogue of Construction Elements

Summary

- IMIP panels can be created layer by layer as user-defined constructive solutions

- The tool calculates their physical properties

Código	Sección	E (mm)	M kg/m²	DB-HR			DB-HE	
				R_A dBA	$R_{A,tr}$ dBA	U (W/m²K)	Condensaciones Superficiales	Condensaciones Intersticiales
UF00001		200	56	30	25	0.34	CUMPLE 0.92 > 0.52	CUMPLE
UF00002		198	61	31	26	0.34	CUMPLE 0.92 > 0.52	CUMPLE

- The user can export the constructive solutions and their properties to IFC format

- The CEC in its next version will be updated with:
  - Allow user-defined constructive solutions for types A (Roof) and C (Slab / Floor)
  - IMIP panels as preloaded constructive solutions

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Thanks for your attention

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Interreg
Sudoe

EUROPEAN UNION

IMIP_
Interlocking Modular Insulation Panels