System Group – SAB S.p.A.

Via Salvo D' Acquisto - Zona Ind.le
61048 S. Angelo in Vado (PU) ITALY
sab@tubi.net
http://www.sabspa.com

BIM Object Guide:

Drainage channel system – Canali di drenaggio

Eng version

Version 2 14/07/2025

BIM Object Guide System Group SPA:

Contents

1.0 Introduction:

This document provides guidance on the use of items from the BIM System Group Catalogue:

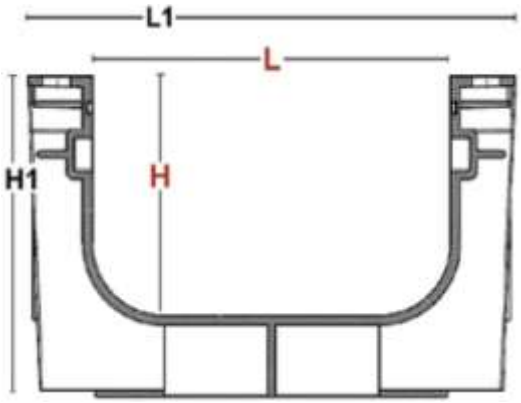
PP CHANNEL complete with GRIDS ……. in …… class ….., plastic/galvanised profile.

Supply and installation of Sabdrain-type PP drainage channel, compliant with UNI EN1433 standard, equipped with external stiffening ribs, male-female interlocking channel connection system.
The channel must have a net internal clearance of ….x…. mm and a length of ….. mm, designed for 90° connection between channels (possibility of creating 90° bends and tees without the use of special pieces), 2 lower side members with open central section (to facilitate the passage of concrete) and 4 lower slots designed for the passage of any reinforcing bars.
The channel will be equipped with two upper reinforcement profiles in galvanised steel h = ... mm and l = ... mm
The channel will include ... grids ... load class ..., compliant with UNI EN1433, edge h ... mm, width ... mm, length ... mm, each grid will be fixed to the channel using ... screws (... on each side).
The channel must bear the CE marking and must be manufactured by a company with ISO 9001 2015 quality certification and product certification issued by leading certification bodies.
Upon customer request, the manufacturer may provide the following certificates, all issued by bodies and laboratories independent of the manufacturer:

- Certification of conformity according to UNI EN 1433
- Load test report according to class A15/B125/C250/D400/E600/F900
- Abrasion resistance test report according to ISO5470
- Chemical resistance test report according to ISO/TR10358

Example:

DIMENSIONS			
Internal		External	
L	H	L1	H1
100	**50**	150	80
100	**100**	150	130
100	**150**	150	180
150	**100**	200	130
150	**150**	200	180
200	**100**	250	130
200	**150**	250	180
200	**200**	250	230
200	**250**	250	280
200	**300**	250	330
300	**200**	390	240
300	**300**	390	340



2.0 Parameters

The parameters of BIM objects are named according to the NBS National BIM Library objects standard to identify their type and configuration. Field names are abbreviated to reduce size and follow the Camel Case writing method, where no spaces are used between words and separations are identified by capital letters to aid readability.

The parameters included in the BIM object are as follows:

2.1 Pset_COBie

AccessibilityPerformance	Accessibility specifications that the object meets
AssetType	Indication of whether the product is fixed or mobile
Description	Description of the type of object to specify the design purpose
Colour	Main feature or colour of the product
Constituents	Optional features, parts or finishes
DurationUnit	Expected lifespan of the product (typically 'years')
ExpectedLife	Useful service life of the object
Features	Other important features or configurations relevant to the product specification
Finish	Main feature or finish of the product
Grade	Standard classification to which the product corresponds
Manufacturer	Email address of the company contact person for the supply of the object
Material	Main feature or material of the product
ModelNumber	The product, item or code assigned to the object by the manufacturer
ModelReference	The name of the object used by the manufacturer
Name	Alphanumeric code preceding the product model
ConnectedStandardPipe	Connection type
PipeOD	Connection diameter
AssembledMinimumHeight	Typically the minimum vertical or secondary dimension of the assembled product
AssembledMaximumHeigh	Typically the maximum vertical or secondary dimension of the assembled product
SiphonedGullyHeight	Typically the maximum vertical or secondary dimension of the assembled product
NominalLength	Typically the horizontal or larger dimension
NominalWidth	Typically the nominal width of the product, typically the secondary horizontal dimension
TotalWeigh	Typically the total weight of the product
ReplacementCost	Typically the indicative unit cost for replacement
Shape	Characteristic shape of the product
Size	Product size
SustainabilityPerformance	Description of the sustainability requirements that the item meet
WarrantyDescription	Description of the contents and exclusions of the warranty
WarrantyDurationLabour	Duration of the warranty on workmanship
WarrantyDurationParts	Warranty period for components

WarrantyDurationUnit	Warranty period (typically ‘years’)
WarrantyGuarantorLabour	Email address of the company representative responsible for workmanship warranties
WarrantyGuarantorParts	Email address of the company representative responsible for component warranties
AssetIdentifier	The manufacturer's distinguishing feature compared to other manufacturers
BarCode	The manufacturer's distinguishing feature compared to other manufacturers
InstallationDate	Product installation date (for example)
SerialNumber	Marking for object traceability
TagNumber	The identification number assigned to a product action by the user (for example)
WarrantyStartDate	Warranty start date

3.0 Use of the Object

3.1 – Loading the object-BIM IFC (INDUSTRY FOUNDATION CLASS)

IFC is a neutral, open, non-proprietary file format that is not controlled by a single software manufacturer or group of manufacturers. The file format is parametric and object-oriented, developed by BuildingSMART to facilitate interoperability in the architecture, engineering and construction industry. IFC is the collaboration format commonly used in BIM projects. The IFC model specification is open and available. In theory, it should allow the exchange and use of relevant data and information between different BIM software.

The IFC2x3 file format is preferred to allow greater compatibility with available BIM applications. In any case, the IFC classes used for export have not been changed in the new IFC 4 format currently under development.

***

In older versions of Autodesk Revit (Revit 2021 or earlier), the export function to IFC format is performed using a specific plugin. If you need to export to IFC format with older versions of Revit, we recommend updating the IFC plugin to the latest version.

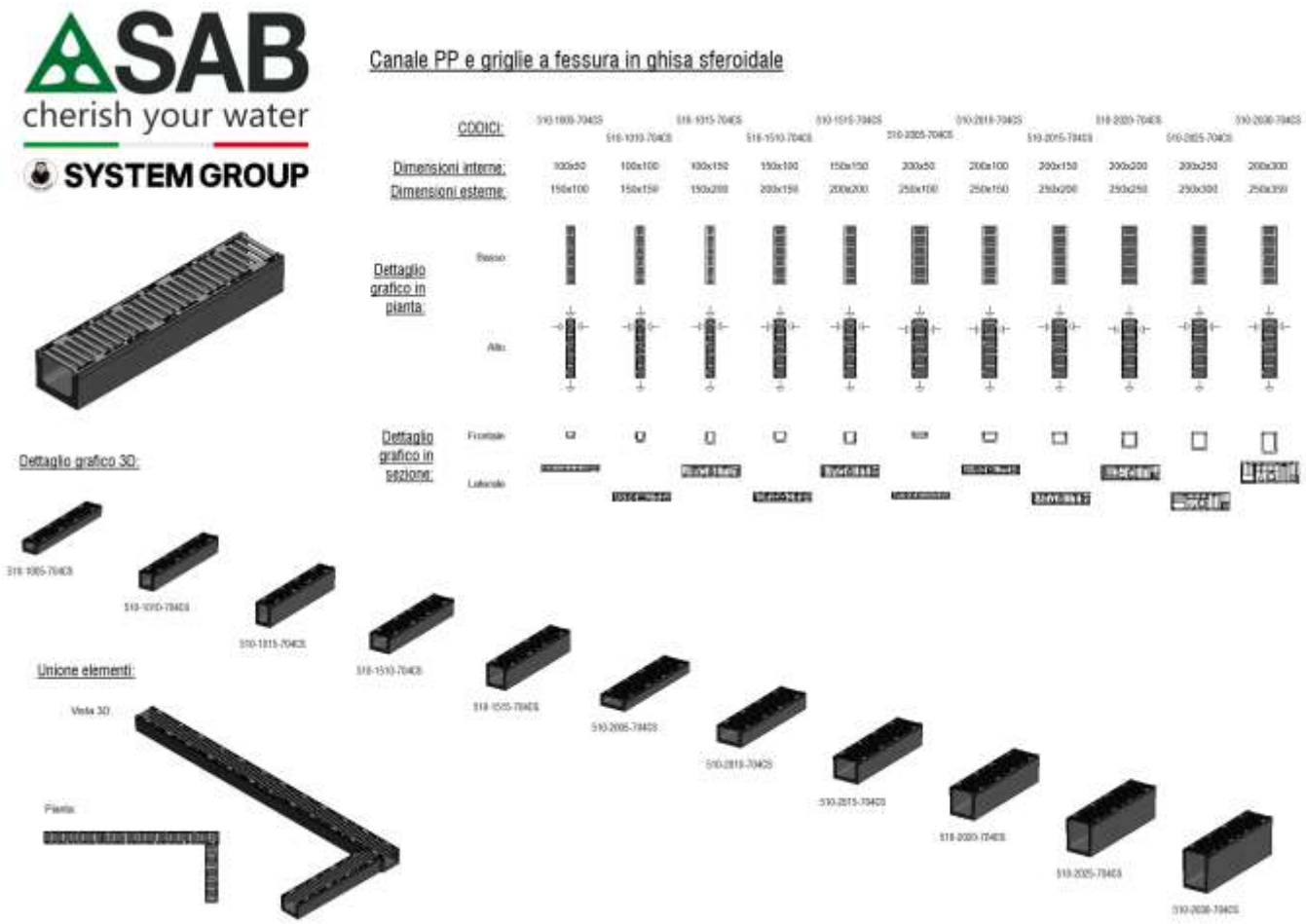
See http://apps.exchange.autodesk.com/RVT/en/Home/Index

If you are using the latest versions of Autodesk Revit (from 2022 onwards), the export plugin is integrated into the programme under File > Export > IFC.

Please note that System Group assumes no responsibility for the provision of IFC and RVT files, their accuracy, reliability, and correctness, nor for any damage, loss, lost profits, etc. resulting from their use.

For information on IFC Industry Foundation Class, visit the buildingSMART information page at http://www.buildingsmart-tech.org/specifications/ifc-overview

3.2 Loading of BIM object in Autodesk Revit



The BIM object 'SystemGroup_SABDRAIN' is intended to be added to the project as a loadable <family>.

The object is presented in a Revit file named 'model name'.rvt, from which it is easy to extract the object in .rfa format (select element, right-click, Edit Family). Alternatively, you can directly open the .rfa format provided, but in this case you will not be able to view the product layout with the different layouts and codes.

The typical method for adding a BIM object with the .rfa (Revit Family) extension to the project is as follows:

1. Select from the tools tabs 'Insert' >> 'Load Family'

2. Identify where the downloaded SystemGroup object is>>Open
3. The object is now present in the collection of families contained within the RVT project.

Alternatively, you can directly copy the Object from the Revit .rvt file:

1. Select the object and copy it (Ctrl + C on the keyboard) or use the Edit tab on the bar and select the Copy to Clipboard command.

2. In the destination window, paste the BIM object file (Ctrl+V on the keyboard) or use the Edit tab and Paste command.

This adds a new family type to the family type list. The BIM object is now available for use in the Project file.

The typical method for adding a BIM object with the .ifc extension to the Project is:

1. Select from the top bar File > Open > IFC

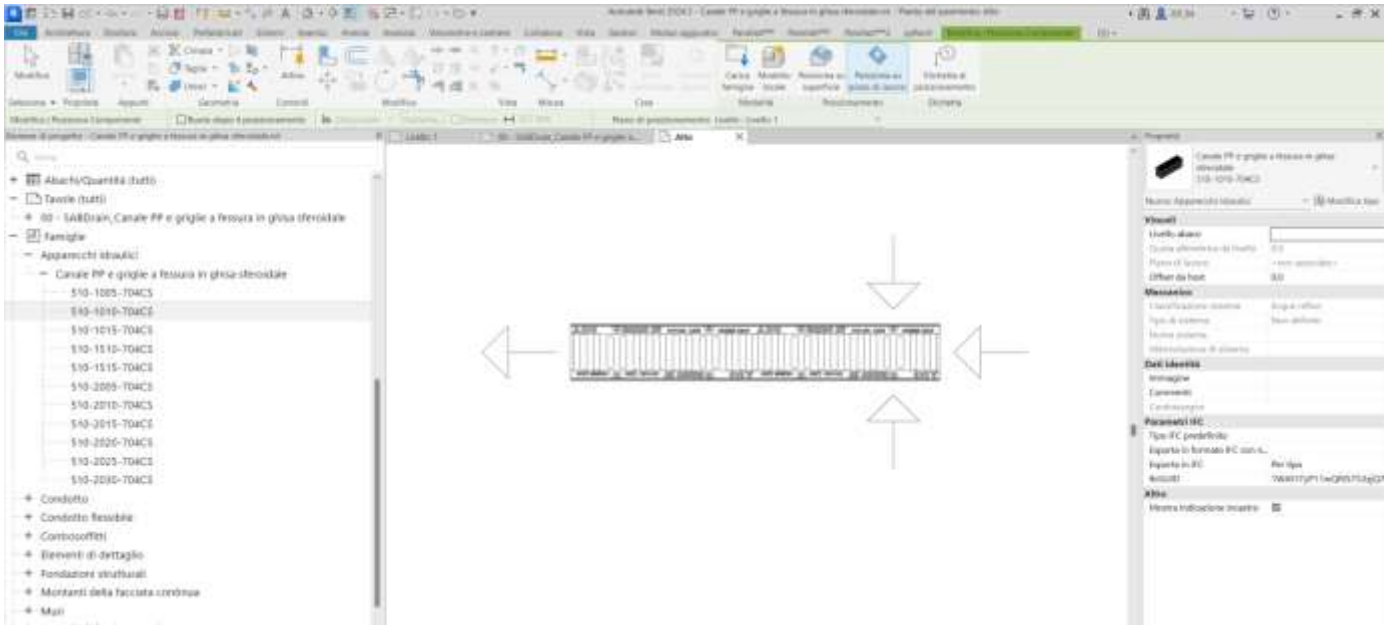
2. The programme will open a new window with the BIM object inserted.

3.3 – Use BIM object “SystemGroup_SABDrain”

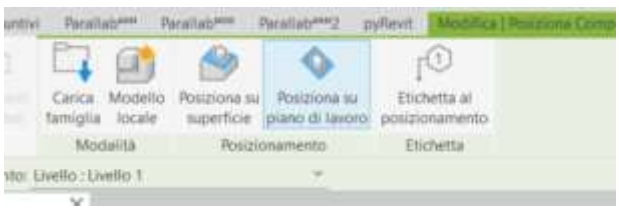
The object just uploaded to the project belongs to the ‘Plumbing Fixtures’ category and, as such, can interact with objects belonging to the ‘Piping’ category within the project.

The object can be inserted into the work area using either a plan view or a 3D view. It is advisable to use the object in plan views, as this allows for greater control and precision in operations.
For a better understanding, we will illustrate the process using the three-dimensional view.

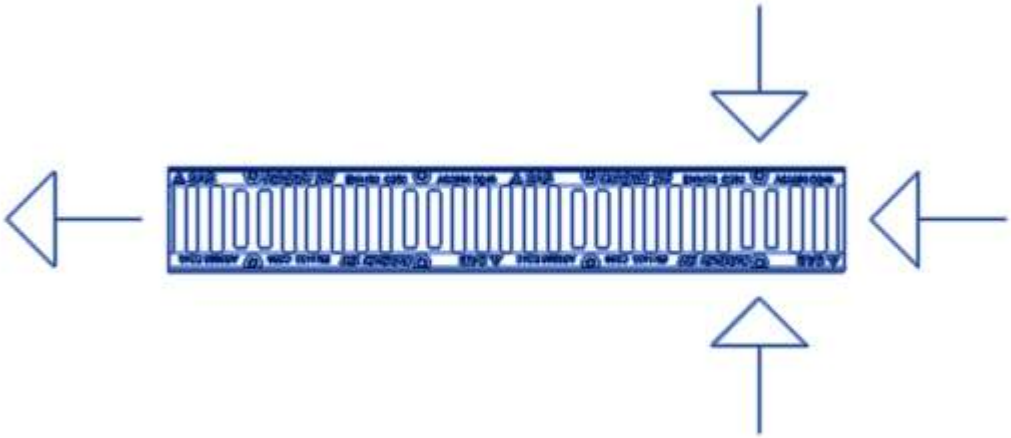
1. To use the object in the model, select the family from the collection in the Project Browser and drag it into the workspace. This will display a preview of the object.



2. During positioning, you can choose whether the object is positioned horizontally on the Revit work plane or on a surface that may also be inclined.

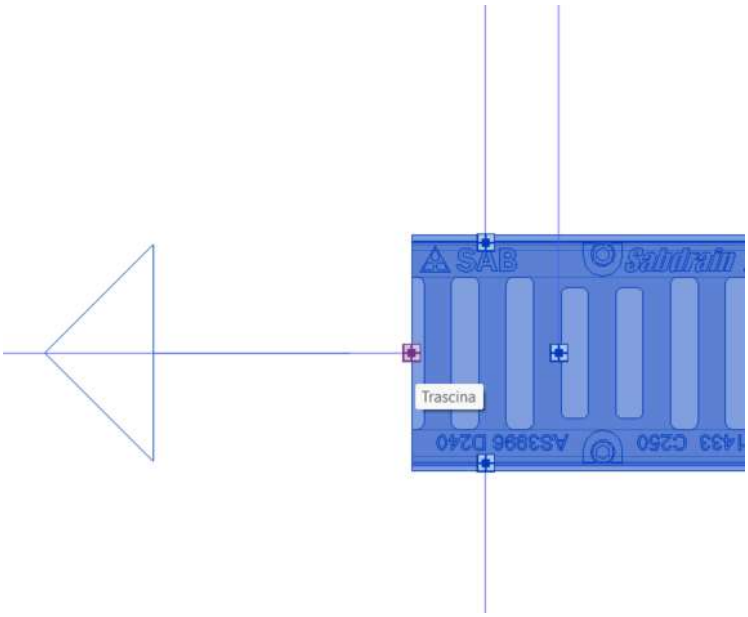


3. Now all you need to do is continue adding other objects to the project space and join them together. For correct positioning, simply follow the arrows visible in the plan view. These indicate both the four possible connection points for the channel and the direction of water flow within it.

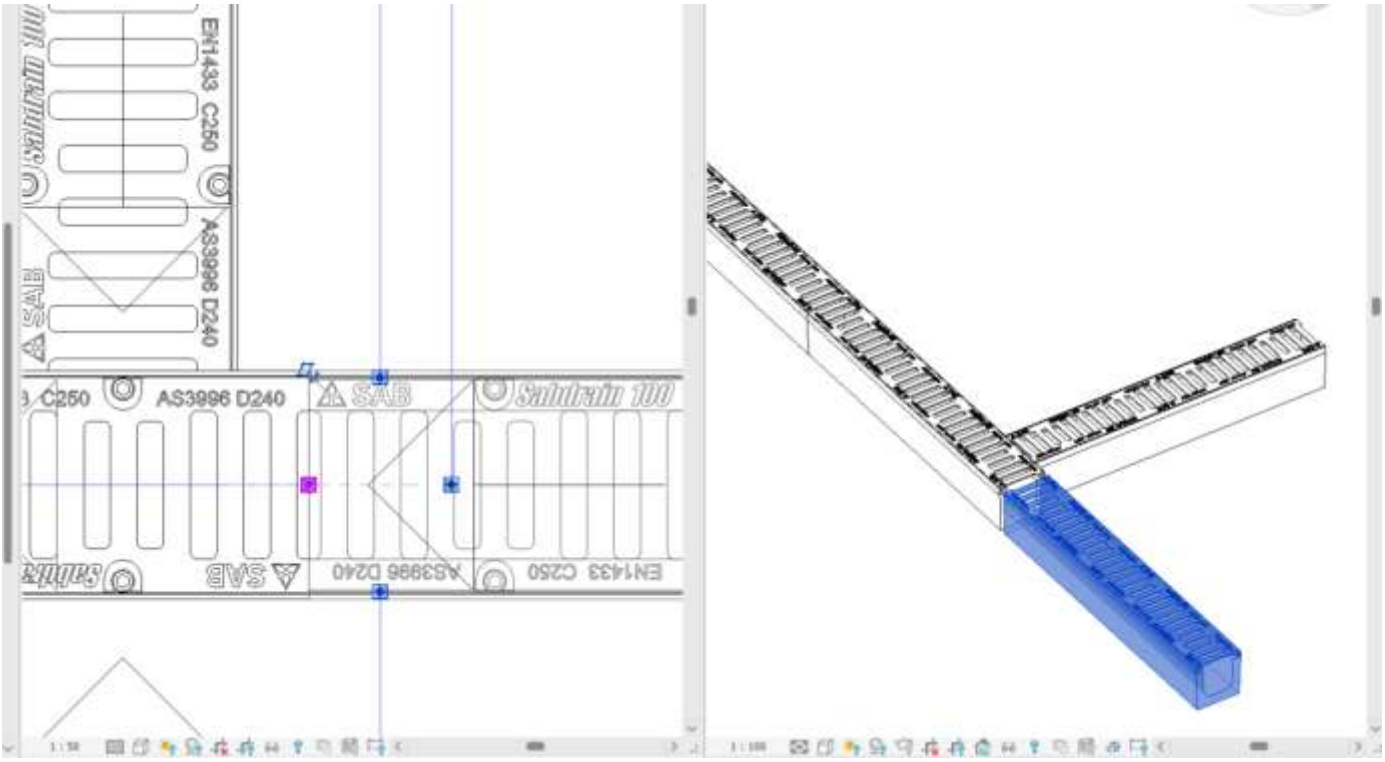


To connect them together, simply overlap the indicated ends:

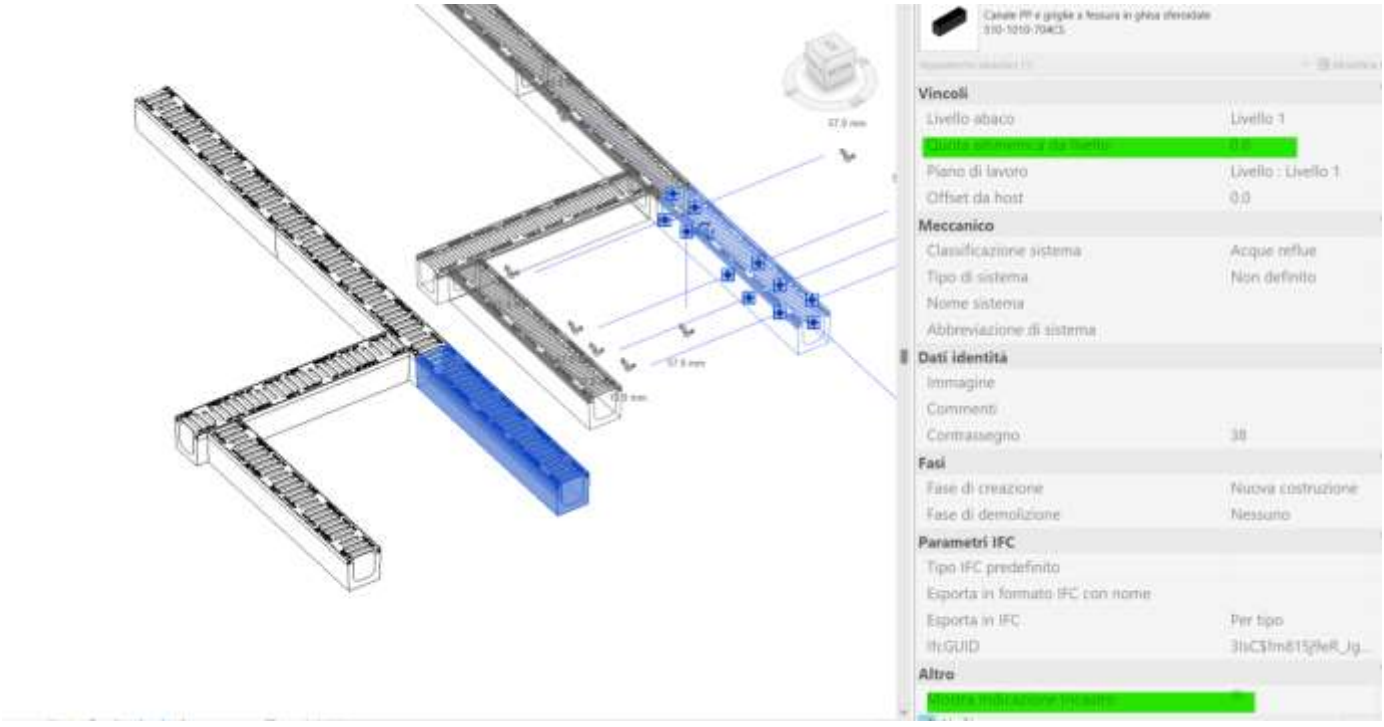
3.1. First, select the channel to be attached and drag it by clicking on the snap indicated below.



3.2. As you approach the second channel, a specific snap will appear, a crossed-out circle, indicating the correct connection.



3.3. Once the object has been positioned, you can move the group of ducts together and manage their elevation using the appropriate parameter Elevation from level. In addition, with the instance parameter Show Interlock Indication, you can turn off the arrows that indicate the interlock position of the ducts in the plan view.



4 – Supply terms

The service is offered by System Group SPA 'as is', in good faith and in substantial compliance with the rules, and no liability can be accepted for any damages arising from use, losses, lost profits, etc. incurred as a result of use.

For further information on IFC (Industry Foundation Class), visit the BuildingSmart website at http://www.buildingsmart-tech.org/specifications/ifc-overview

5 - Contacts

The technical department of System Group is available to provide clarification regarding the application of products under the intended conditions of use.

SYSTEM GROUP TECHNICAL DIVISION

sab@tubi.net

Visit our website:

http://www.sabspa.com