

# System Group - Italiana Corrugati S.p.A

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*BIM Object Guide:*



**Sewerage pipes  
with double shell  
mechanical junction**

for corrugated pipes  
with high sealing performances

**Version**

Version 1 23/01/2019 Pag 1 di 1

## BIM Object Guide System Group SPA:

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## 1.0 Introduction:

This document guides the use of the BIM System Group Catalog objects:

### System Corplus SN8



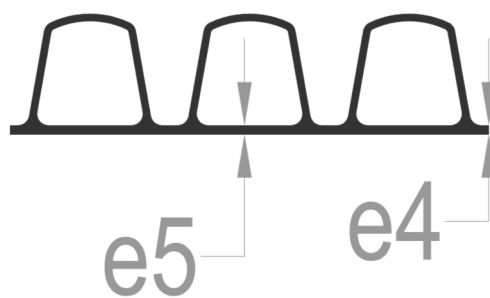
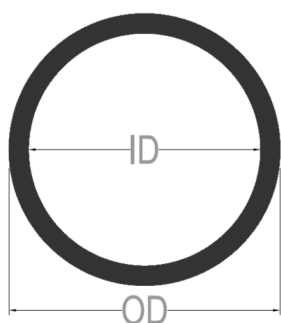
Double layer polyethylene (PE) pipe, corrugated outside and smooth inside (type A), the junction is composed of double PP shell, with internal comoulded surfaces in EPDM, with stainless steel screws and bolts for the mechanical tightening of the connection between the two pipes. The system is conform with the standard EN 13476-3, certified by an accredited third part certification body according with EN ISO/IEC 17065. The system is produced and tested to guarantee superior performance than the standard request, with a maximum inside pressure of 2 bar for 30 minutes and a maximum outside pressure, 1 bar for 30 minutes. For sewage and drainage applications.

### Systema Corplus SN16



Double layer polypropylene (PP) pipe, corrugated outside and smooth inside (type B), the junction is composed of double PP shell, with internal comoulded surfaces in EPDM, with stainless steel screws and bolts for the mechanical tightening of the connection between the two pipes. The system is conform with the standard EN 13476-3, certified by an accredited third part certification body according with EN ISO/IEC 17065. The system is produced and tested to guarantee superior performance than the standard request, according, with a maximum inside pressure of 2 bar for 30 minutes and a maximum outside pressure, 1 bar for 30 minutes, certified by an accredited third part certification body according to EN ISO/IEC 17065. For sewage and drainage applications.

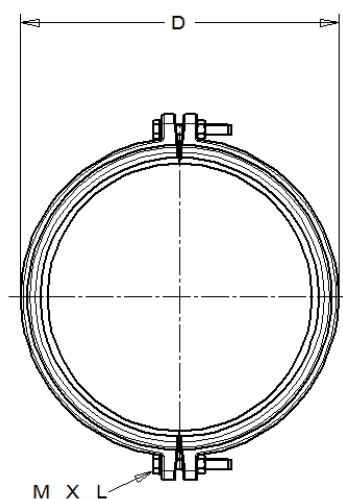
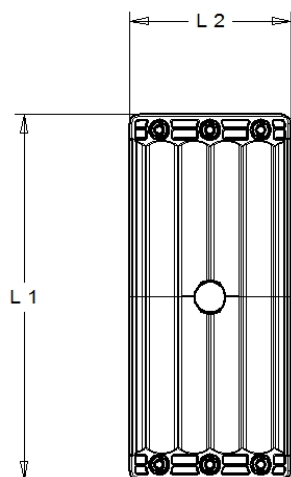
## PIPE DIMENSIONS



DN/OD	ID <sub>MIN</sub>	D	Spessore di parete		Rigidità anulare	
			e4 min	e5 min		
mm					kN/m2	
160	136	284	1,8	1,5	> 8	> 16
200	172	350	2	1,7	> 8	> 16
250	214	284	1,8	1,5	> 8	> 16
315	272	350	2	1,7	> 8	> 16
400	347	468	2,5	2,3	> 8	> 16
500	433	565	3,0	3,0	> 8	> 16

## COR PRESS JOINT DIMENSIONS

DN	L1	L2	D	M X L
	mm	mm	mm	
<b>160</b>	<b>210</b>	<b>84</b>	<b>182</b>	<b>N° 4 M8 X 55</b>
<b>200</b>	<b>240</b>	<b>110</b>	<b>218</b>	<b>N° 6 M8 X 55</b>
<b>250</b>	<b>306</b>	<b>135</b>	<b>266</b>	<b>N° 6 M8 X 55</b>
<b>315</b>	<b>380</b>	<b>160</b>	<b>340</b>	<b>N° 6 M8 X 55</b>
<b>400</b>	<b>455</b>	<b>200</b>	<b>440</b>	<b>N° 6 M10 X 55</b>
<b>500</b>	<b>570</b>	<b>275</b>	<b>530</b>	<b>N° 8 M10 X 55</b>



## 1.1 Denominations

The parameters of the BIM objects are named according to the NBS National BIM Library objects standard to identify their type and configuration.

The fields are aggregated using the underscore character (\_) and the information within the individual field is separated using the "minus" hyphens (-) characters. Field names are abbreviated to reduce the size and the separations are identified by capital letters to help readability.

The file and object names named as:

File name

Field1Author\_Field2 Manufacturer\_Field3 Category\_Field4 Product Range

Object

Field1 Author\_ Field2 Manufacturer\_Field3 Category\_Field4 Class Product\_Field5 Variations

## 2.0 Parameters

The parameters included in the BIM:

### 2.1 Pset\_Classification

#### Pset\_Classification

	COR_PLUS_SN8	COR_PLUS_SN16	Descrizione
Uniclass2015Code	Pr_65_52_07_65	Pr_65_52_07_65	A classification code, e.g. Uniclass2015.
AccessibilityPerformance	n/a	n/a	The accessibility issue(s) which the object satisfies.
Application	Fognature e drenaggi	Fognature e drenaggi	

#### Pset\_Data

	COR_PLUS_SN8	COR_PLUS_SN16	Descrizione
VicatSofteningTemperature	124	159	
NominalDiameterDN/ID	n/a	n/a	
NominalDiameterDN/OD	0.315 m	0.315 m	
NominalHeight	0.315 m	0.315 m	Typically the vertical or secondary characteristic dimension.
NominalLength	6 m	6 m	Typically the larger or primary horizontal dimension.
NominalStiffnessSN	8 kN/m2	16 kN/m2	The nominal stiffness according to EN ISO 9969
NominalWidth	0.315 m	0.315 m	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
TensileStrainAtYield	8 %	8 %	According to ISO 527-2
TensileStressAtYield	19 MPa	31 MPa	According to ISO 527-2
ThermalConductivity	0.200000	0.200000	
ThermalLinearCoefficient	0.22 mm/m/°C	0.14 mm/m/°C	
ThightnessOfDoubleShellSealJointMaximumNegative Pressure	1 bar	1 bar	
ThightnessOfDoubleShellRingSealJointMaximumPick Pressure	3 bar	3 bar	
InternalDiameterID	0.272 m	0.272 m	
InternalWallMaterial	Polietilene (PE)	Polipropilene (PP)	
ISO14001	SI	SI	
ISO18001	n/a	n/a	
ISO9001	SI	SI	
MaximumJointDeflection	2°	2°	
MaxTemperature	60 °C	70 °C	
MinInternalWallThicknessE5min	0.0016 m	0.0016 m	
MinTemperature	-10 °C	-10 °C	
MinumumShortTermElasticityModulus	800	1250 MPa	

MinWallThicknessE4min	0.0019 m	0.0019 m	
ExternalDiameterOD	n/a	n/a	
ExternalWallMaterial	Polietilene (PE)	Polipropilene (PP)	
Features	Resistenza chimica secondo ISO-TR 10358	Resistenza chimica secondo ISO-TR 10358	Other important characteristics or features relevant to product specification.
Finish	n/a	n/a	Characteristic or primary finish of product.
Fittings	n/a	n/a	
Grade	n/a	n/a	Standard grading which the product corresponds.
ImpactResistance	si	si	According to ISO 3127
ElectricalSurfaceResistance	10 <sup>12</sup> Ω	10 <sup>12</sup> Ω	
RingFlexibility	0.3	0.3	Ring flexibility according to EN ISO 13968 (%)
RingStiffness	8 kN/m <sup>2</sup>	16 kN/m <sup>2</sup>	The ring stiffness according to EN ISO 9969 (kN/m <sup>2</sup> )
	0.0215 m	0.0215 m	

## Pset\_COBie

Description	Double layer polyethylene (PE) pipe, corrugated outside and smooth inside (type B), the junction is composed of double PP shell, with internal comoulded surfaces in EPDM, with stainless steel screws and bolts for the mechanical tightening of the connection between the two pipes. The system is conform with the standard EN 13476-3, produced and tested to guarantee superior performance than the standard request, according with the specification STPQ 07, with a maximum inside pressure of 3 bar for 30 minutes and a maximum outside pressure, 1 bar for 30 minutes, certified by an accredited third part certification body according to EN ISO/IEC 17065. For sewage and drainage applications.	Double layer polypropylene (PP) pipe, corrugated outside and smooth inside (type B), the junction is composed of double PP shell, with internal comoulded surfaces in EPDM, with stainless steel screws and bolts for the mechanical tightening of the connection between the two pipes. The system is conform with the standard EN 13476-3, produced and tested to guarantee superior performance than the standard request, according with the specification STPQ 07, with a maximum inside pressure of 3 bar for 30 minutes and a maximum outside pressure, 1 bar for 30 minutes, certified by an accredited third part certification body according to EN ISO/IEC 17065. For	A description of the type of object to detail any design intent.
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		sewage and drainage applications.	
ModelNumber	Production line number and date	Production line number and date	The product, item or unit number assigned by the manufacturer of the object.
ModelReference	Corrugated pipe SN8 with Cor Press Joint	Corrugated pipe SN16 with Cor Press Joint	The name of the object as used by the manufacturer.
Name	PE double wall corrugated pipe SN8 with Cor Press Joint	PE double wall corrugated pipe SN16 with Cor Press Joint	A unique human-readable alphanumeric name that begins with the product type.
Name	COR PLUS SN8	COR PLUS SN16	Definition
Manufacturer	italianacorrugati@tubi.net	italianacorrugati@tubi.net	Email address for the organisation responsible for supplying or manufacturing the object
ManufacturerName	Italiana Corrugati SPA	Italiana Corrugati SPA	Manufacturer name
Material	Polyethylene (HDPE), Polypropylene (PP HM), EPDM, Stainless Steel	Polypropylene (PP HM), EPDM, Stainless Steel	Characteristic or primary material of product.
AssetIdentifier	n/a	n/a	The identification assigned to an asset that enables its differentiation from other assets.
AssetType	Fixed	Fixed	An indication of whether the object is fixed or movable.
BarCode	no	no	The identity of the bar code (or rfid) given to an occurrence of the product (per instance).
WallPipeSection	Corrugated type B	Corrugated type B	
WarrantyDescription	Manufacturing Defects	Manufacturing Defects	Description of the warranty content and any exclusions.
WarrantyDurationLabour	n/a	n/a	Duration of labour warranty.
WarrantyDurationParts	2	2	Duration of parts warranty.
WarrantyDurationUnit	Years	Years	Duration of warranties (typical value is 'years').
WarrantyGuarantorLabour	<a href="mailto:lab.itc@tubi.net">lab.itc@tubi.net</a>	<a href="mailto:lab.itc@tubi.net">lab.itc@tubi.net</a>	Email address for the organisation responsible for the labour warranty.
WarrantyGuarantorParts	<a href="mailto:lab.itc@tubi.net">lab.itc@tubi.net</a>	<a href="mailto:lab.itc@tubi.net">lab.itc@tubi.net</a>	Email address for the organisation responsible for the parts warranty.
WarrantyStartDate	Delivery date	Delivery date	The date on which the warranty commences.
Weight			
DurationUnit	years	years	Duration of expected life (typical value is 'years')
ExpectedLife	50	50	The typical service life of the object.
InstallationDate	n/a	n/a	The date that the manufactured item was installed (per instance).
Replacement cost	n/a	n/a	An indicative cost for unit replacement.
SustainabilityPerformance	100% recyclable	100% ricyclable	Description of the sustainability issue(s) which the object satisfies
TagNumber	Stick label	Stick label	The tag number assigned to an



			occurrence of a product by the occupier (per instance).
ThirdPartCertificationBody	<a href="http://tubi.net/downloads-system-group/italiana-corrugati/">http://tubi.net/downloads-system-group/italiana-corrugati/</a>	<a href="http://tubi.net/downloads-system-group/italiana-corrugati/">http://tubi.net/downloads-system-group/italiana-corrugati/</a>	Third part certifications
TotalLenght	n/a	n/a	Total Lenght
TraceabilityCode	Yes	Yes	Marking for the traceability of the product
BetoniteGasket	NO	NO	Bentonitic sealing device
CEMarkingRequirement	NO	NO	CE Marking Requirements
CodePerformance	EN 13476-3	EN 13476-3	The code compliance requirement(s) which the object satisfies
Colour	Black outside and black inside	Black outside, yellow inside	Characteristic or primary colour of product.
Constituents	Cor Press Joint	Cor Press Joint	Optional constituent features, parts or finishes.
Shape	Cylindric pipe	Cylindric pipe	Characteristic shape of product.
Size	315x272 mm	315x272 mm	Characteristic size of product.
Standard	EN 13476-3 type B	EN 13476-3 type B	Standard specification
StandardJointCouplingWith1Gasket	NO	NO	Specification of the coupling joint
StandardJointIntegratedSocketWith1ElastometricGasket	NO	NO	Specification of the integrated socket joint
CorPressJoint	YES	YES	Specification of the Cor Press joint
SurfaceStatusAndFinishing	Visible surface of pipes and fittings shall be smooth, clean and free from grooving, blistering, visible impurities or pores and any other surface irregularity, presence of two shells, six screws and six bolts for each pipe to connect.	Visible surface of pipes and fittings shall be smooth, clean and free from grooving, blistering, visible impurities or pores and any other surface irregularity, presence of two shells, six screws and six bolts for each pipe to connect.	Surface status and finishing

### 3 - Load the IFC (INDUSTRY FOUNDATION CLASS) -BIM object

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

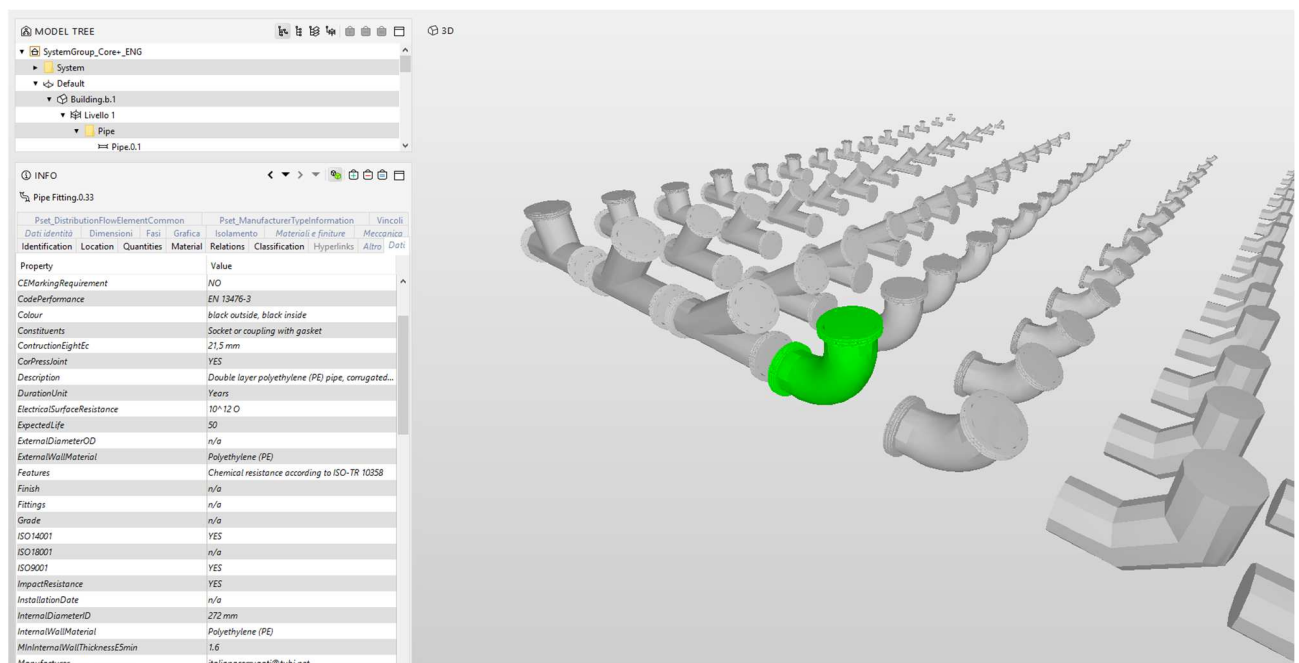
The IFC file is in IFC2x3 format. The new IFC4 scheme is announced soon, but the currently "certified" format is IFC2X3, which is preferred because it allows greater compatibility with the available BIM applications.

In the old versions of Autodesk Revit (example Revit 2013) the export function to the IFC format is done through the use of a specific plugin. IFC is a rapidly developing scheme and new versions of the IFC plugin are often available within the same version of the Revit software. If export is requested in IFC format, we recommend updating the IFC plugin to the latest version.

see <http://apps.exchange.autodesk.com/RVT/en/Home/Index>

Please note that System Group assumes no responsibility for the supply of IFC and RVT files, its accuracy, reliability and accuracy, nor for any damages, losses, lost profits, etc. as a result of its use.

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



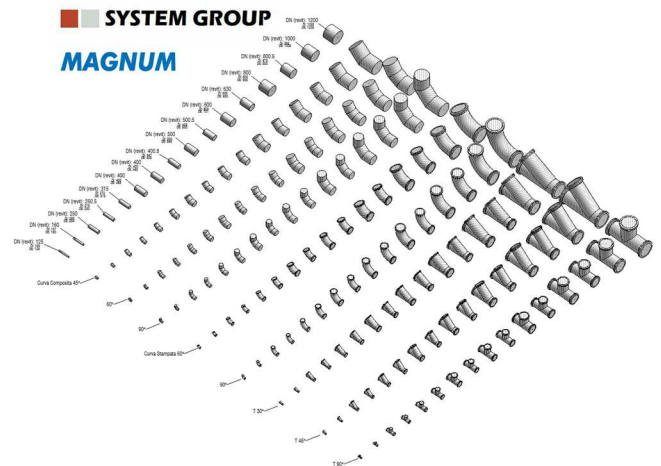
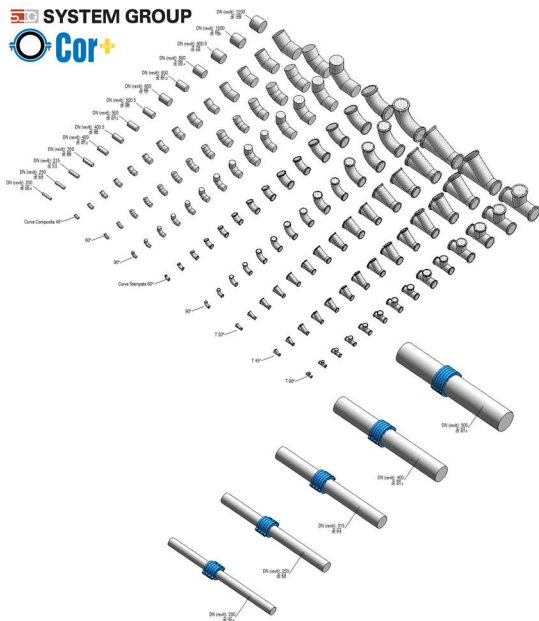
### 4 - Load the BIM object in Autodesk Revit

The BIM object "**SystemGroup\_CorPress.rfa**", "**SystemGroup\_Core+\_RaccordoT.rfa**,"

**"SystemGroup\_Core+\_Curva.rfa" , "SystemGroup\_Magnu\_T.rfa" e**

**"SystemGroup\_Magnum\_Curva.rfa"** is intended, to be added to the project, as a system <family>. The object is presented in a Revit .rte template file from which it is easy to extract the object in .rfa format as a loadable family. The object is contained in a revit template file .rte from which it is possible to extract the .rfa object.

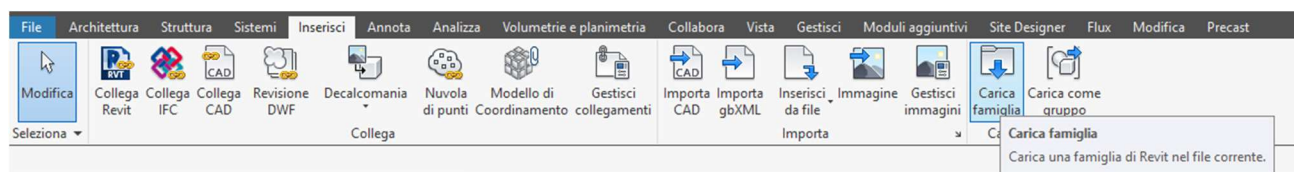
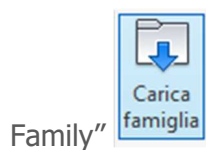
The typical method for adding a BIM object to the project with the extension .rfa (Revit Family) is as follows:



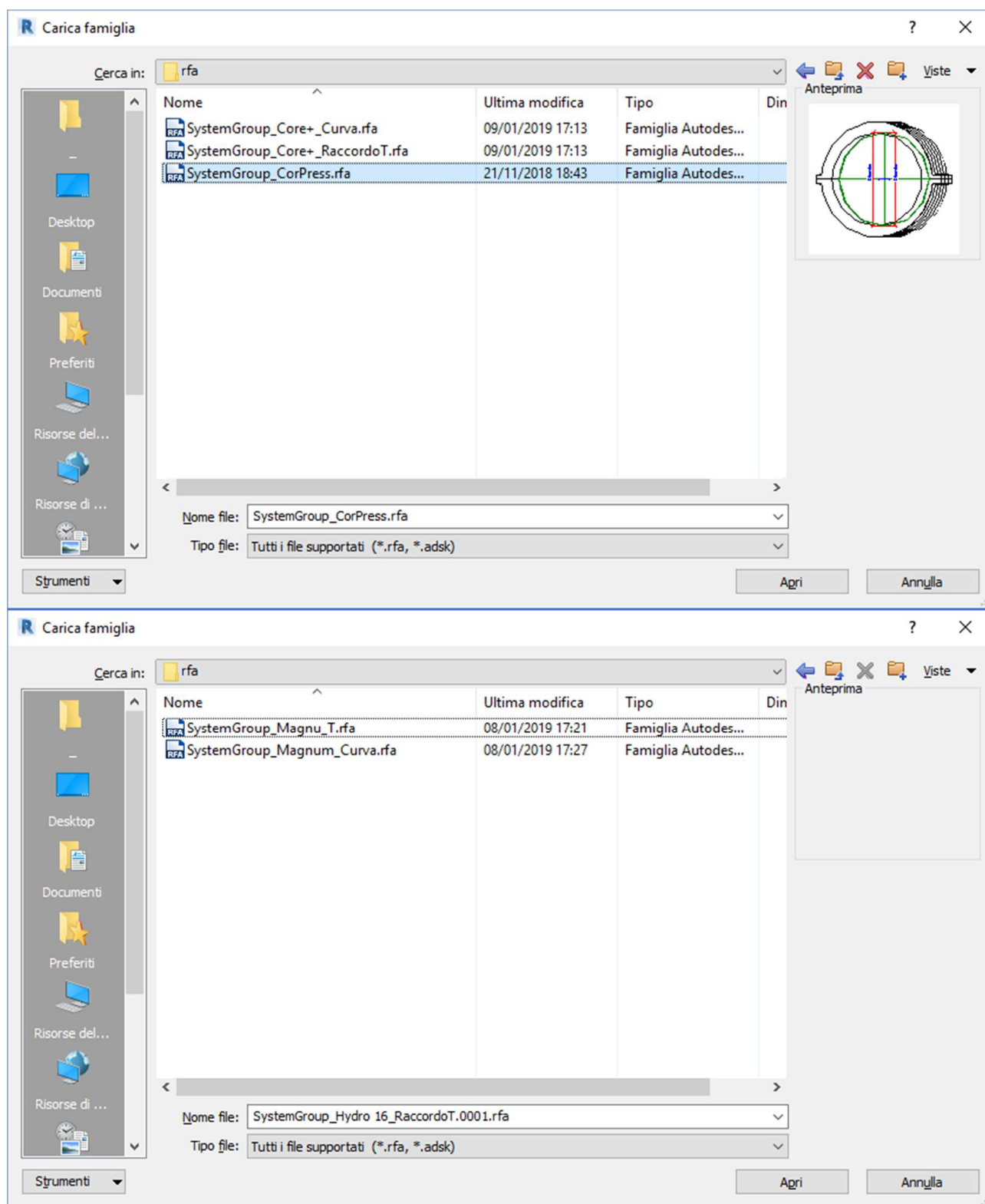
You can add the object following the instructions below:

1. select from the command tab the "Insert" button

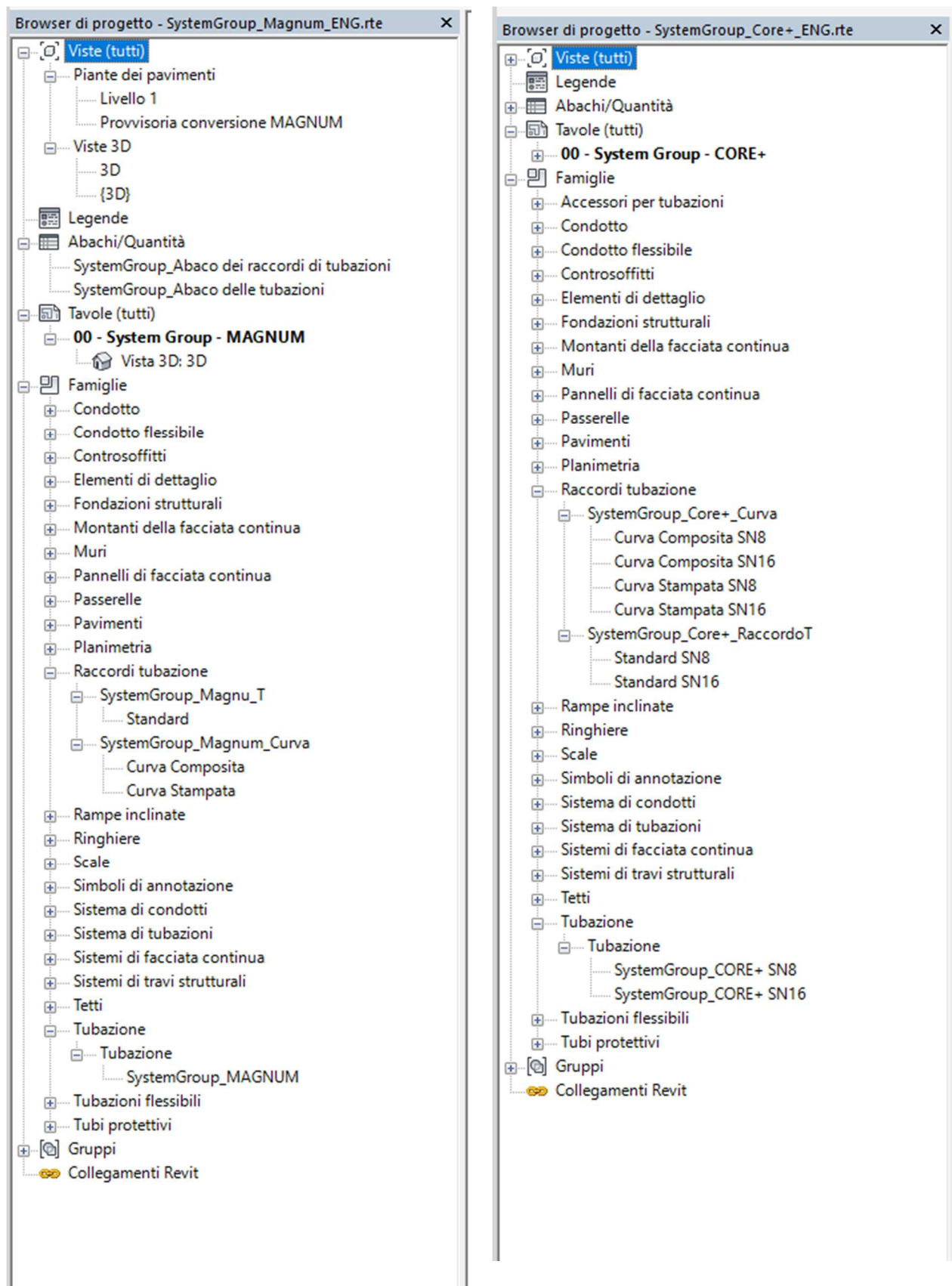
**Sistemi   Inserisci   Annota** >> "Load



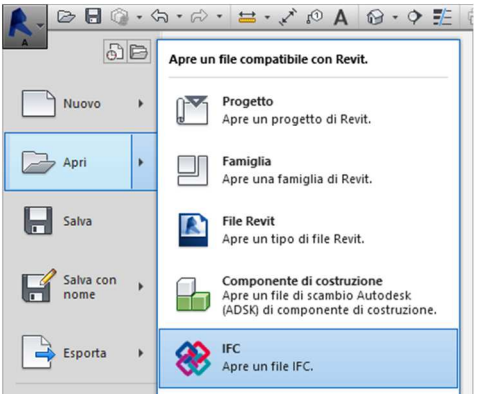
2. select the downloaded SystemGroup file path>> Open




3. the object is now contained in the family list inside the RVT project

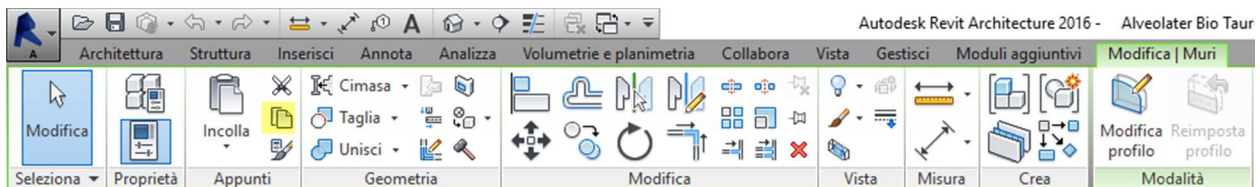


You can add a BIM object in an .ifc extension to the project following this method:

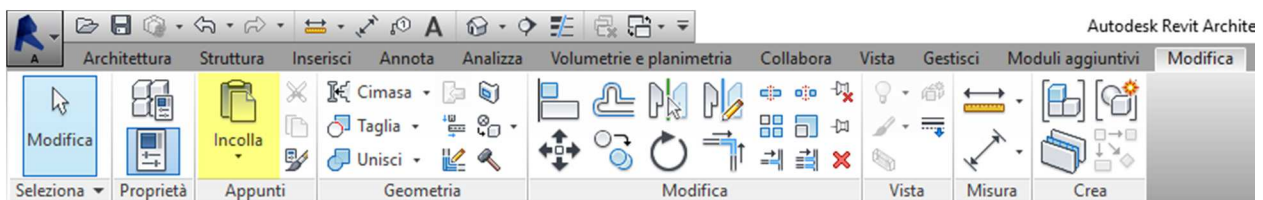


1. starting from the bottom  >> Open>> IFC
  
2. a file selection window will appear.  
Select the System Group IFC file path

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



4. Now, in the target window, paste the Bim object file (Ctrl + V from the keyboard) or use the Edit and Paste command tab.



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

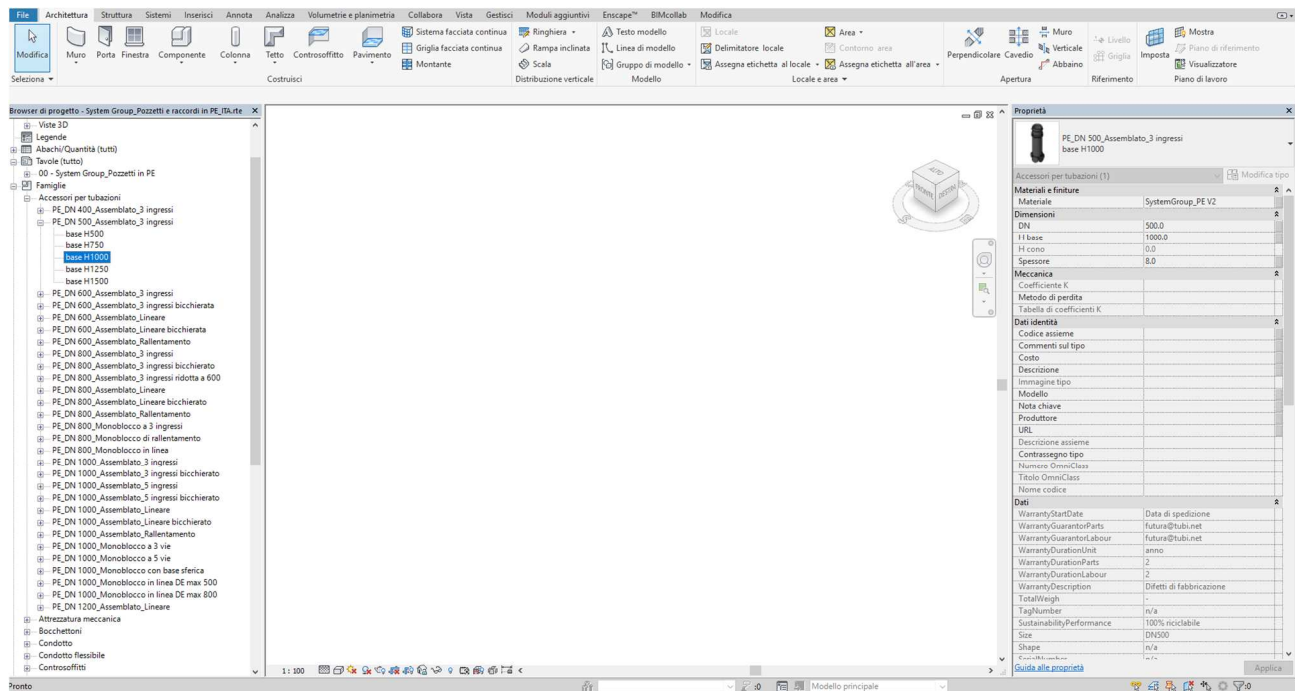


## 5 - Using BIM object “SystemGroup\_COR+”

The loaded object in the project is contained in the “Pipe Accessory” category and for this reason it can be combined with pipe elements inside a project.

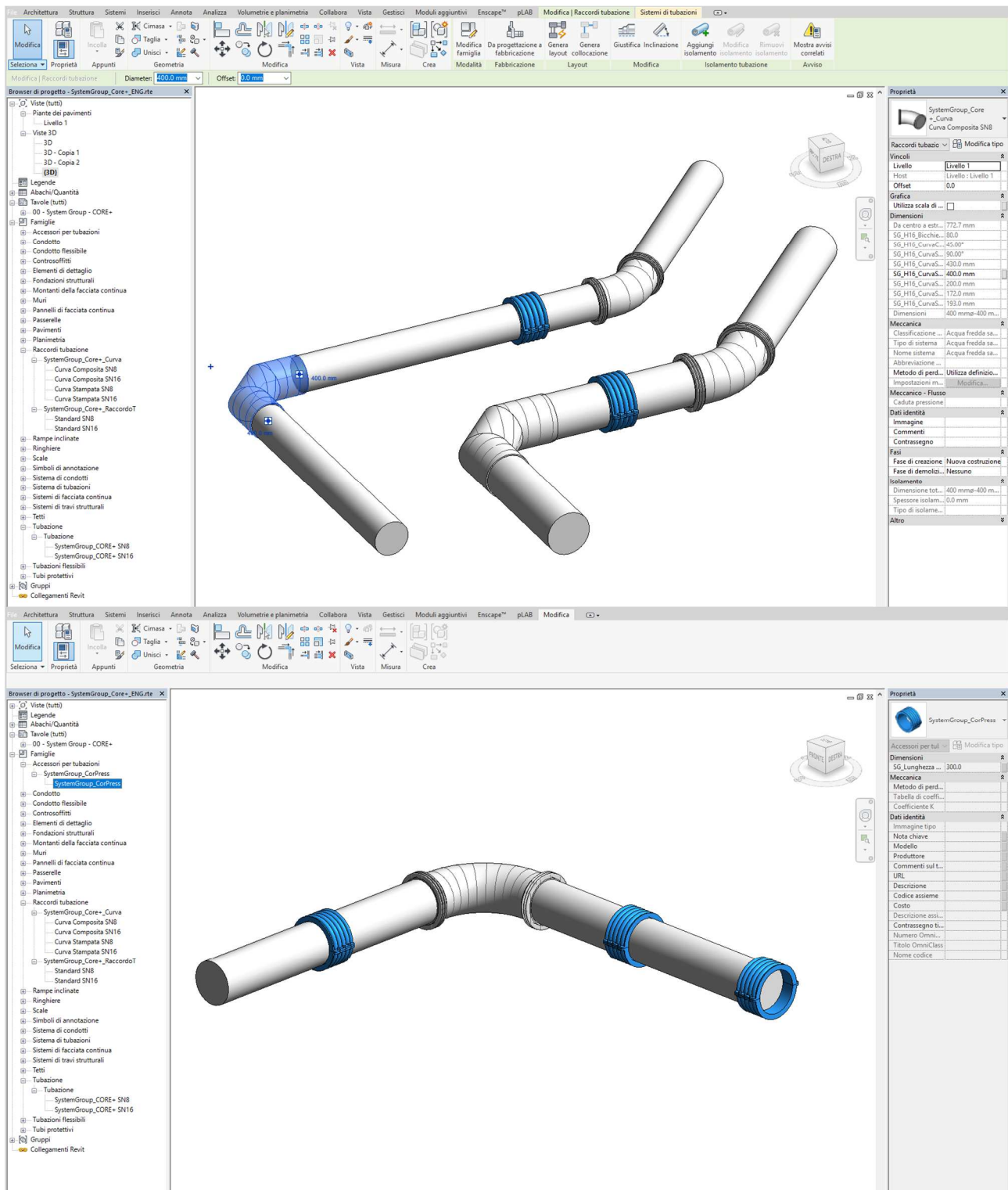
You can insert the object in the project work area by a 3D view or by a plan view. We will show a 3D insert method for a better comprehension.

1. In order to use the object inside the model, you have to select the object in the families list in your project browser on the left of your revit windows and drag it to the work area.



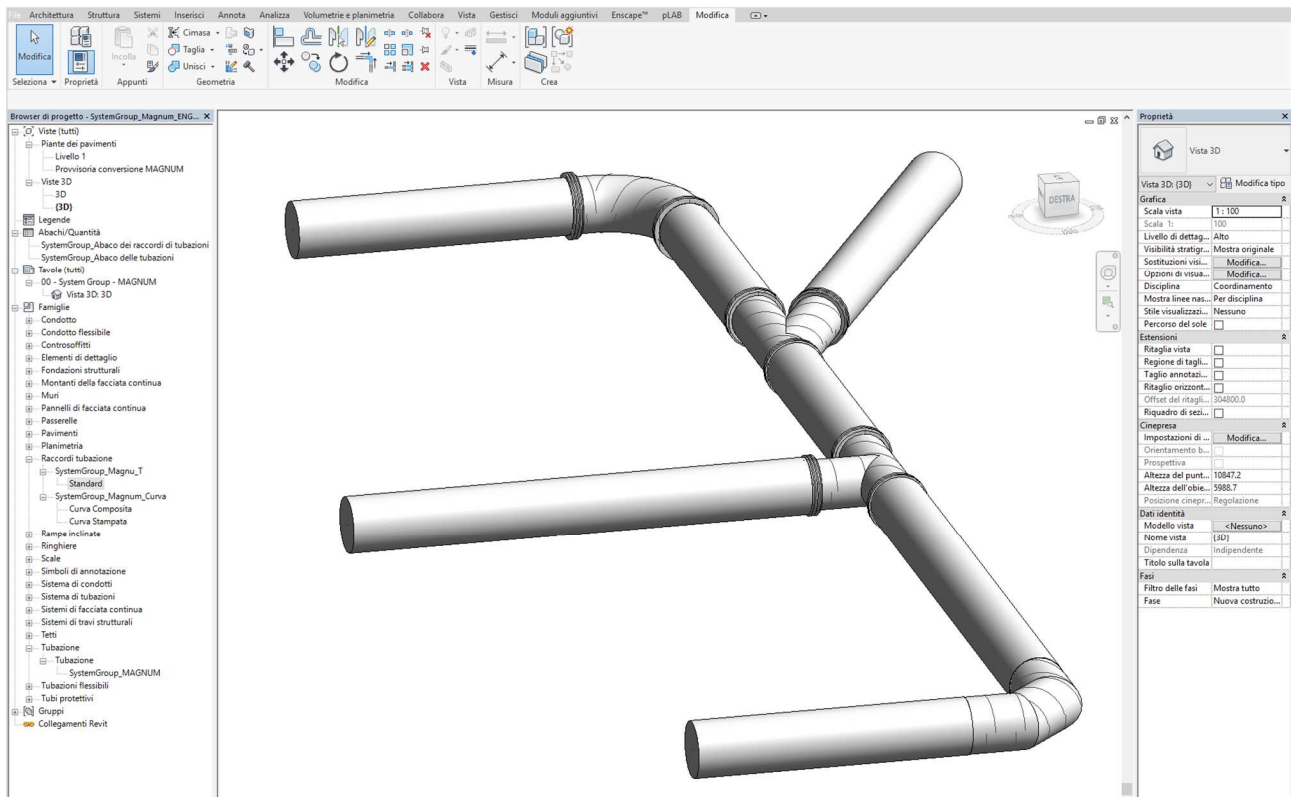
2. At that moment a preview of the object appear on the screen.

### 3. Now you have to drop the object to the placement spot desired

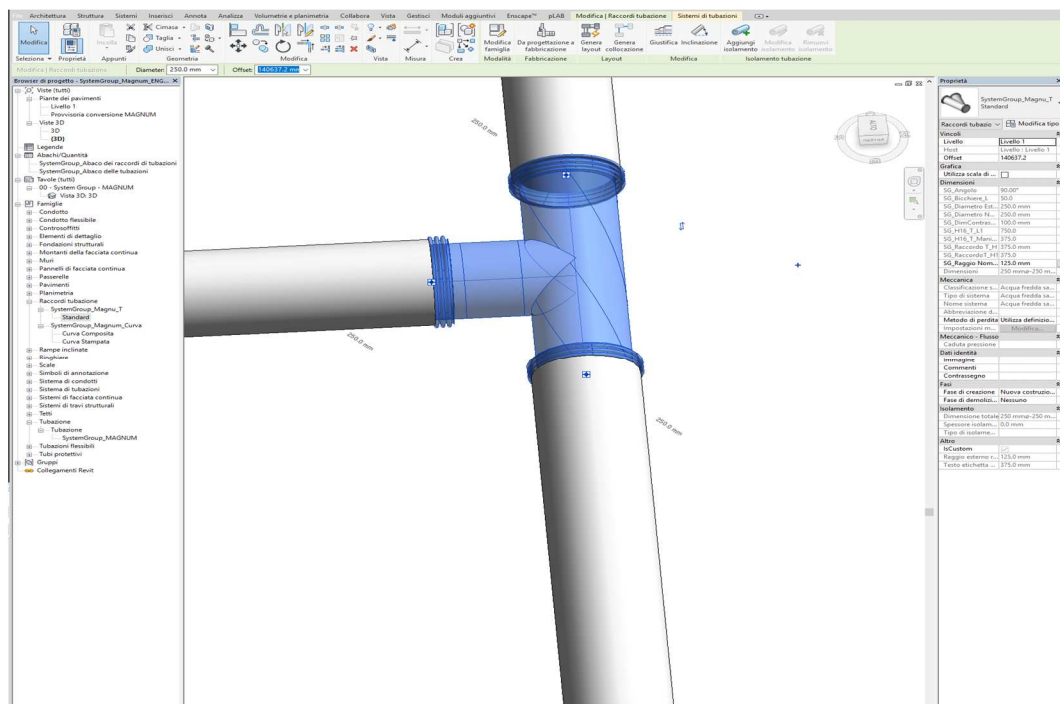




- Once placed the object, you can edit the custom parameters as, for examples, the manhole base type ora top enclosure part by selecting the assigned field on the properties tab.



- Then, starting from the placed manhole it is possible to create pipe elements in order to create, or connect to, the piping system.



## 6- Supply conditions

The service is offered by System Group SPA "as is", in good faith in the substantial respect of the rules, and no responsibility can be accepted for any damages deriving from use, losses, lost profits, etc. suffered as a result of use.

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

## 7 - Contacts

System Group technical division is at your disposal for informations about the right application of the products according to the best practices of use.

SYSTEM GROUP TECHNICAL DIVISION

[tecnico@tubi.net](mailto:tecnico@tubi.net)

Please come back to:

[www.tubi.net](http://www.tubi.net)