

如何设置 ISO 图中 BOM 的组件序列

如之前的文章所述，ISO 图的物料清单是在车间物料和现场物料的基础上创建的。如果需要在生成 ISO 图时，不显示 Shop & Field 部分的情况下合并所有报表，且所需的组件按照特定顺序排列。这就需要对 report.def 文件和 rep_sortgroups.txt 文件进行配置。在这篇文章中，我们将主要讲述实现这种样式的配置流程，部分基本的操作步骤将省略。

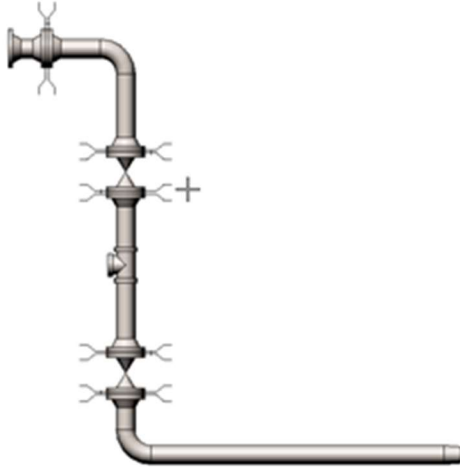
首先，假设用户需要一个 BOM 序列/模式，如下图左侧所示。而默认情况下，ISOsheet 管理器提供如下图右侧所示的报告。接下来，我们将修改默认配置文件，以使得出图效果满足需求。

	ITEM	DESCRIPTION
Pipe	1	2" PIPE SMLS STD WT BE
Fitting	2	2" 90° ELL SMLS STD WT BW
	3	2" TEE SMLS STD WT BW
Flange	4	2" FLG 150# RF WN
	5	2" FLG 150# FF SO
	6	2" BLIND FLG 10K FF
Gasket	7	2" GASKET 150# RF 3.2t
	8	2" GASKET 150# FF 3.2t
	9	2" GASKET 10K FF 3t
Bolt	10	5/8"x85L STUD BOLT W/2 HEX. NUT
	11	M16x75L STUD BOLT W/2 HEX. NUT
Valve	12	2" BALL VA 150# RF FLGD
Others	13	2" FLEXIBLE HOSE
		1.BELLOW MATERIAL:S.S.

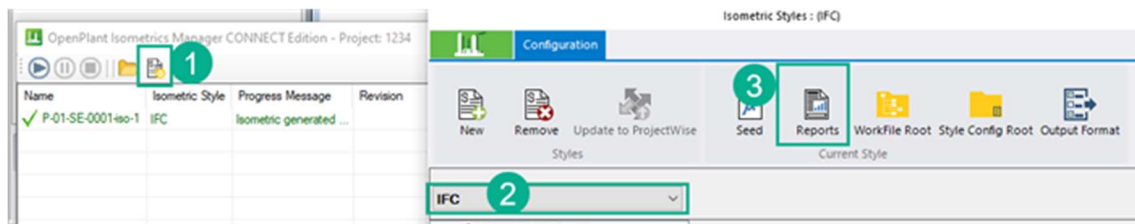
Bill of Materials				
Pos	Quantity	Size1	Size2	Description
Shop Materials				
Pipes				
1	2702	200		Pipe, SMLS, SCH 40, STL
Fittings				
2	2	200		Weld Neck Flange, 150LB, RF, STL
3	1	200		Pipe Elbow 90 Degree Long Radius, BW, SCH 40, STL
Field Materials				
Valves				
4	1	200		BALL VALVE FL DS 150LB RF
Gaskets				
5	2	200		Gasket, 150LB, RF x 15.9mm THK,
Bolts				
6	16	3/4 1/4"		NON STANDARD Ø - 3/4 X 5 1/4 STUD BOLTS

操作步骤

1. 启动 OpenPlant Modeler。创建管道并放置所需的组件。



2. 从 IsoProcessor 对话框单击 Style configuration , 选择所需样式, 比如 IFC, 并单击 Reports 打开报告定义文件, 如图所示。(也可以直接直接导航到对应工作集下的 Standards\OpenPlant\Isometrics\styles\IFC\config 文件夹打开 report.def 文件)



3. 如图所示, 用 “#” 注释掉以下几行, 以合并整个报表。

```

-----
REPORT = FLD

    # this to include only field items
    INCLUDE = IE_FIELD=1
    EXCLUDE = IE_TYPE=CT_WELD

L
GROUP = PARTID
SORT = PARTID:N
SEP = @
SORTHEADERS = 1
#TEXT = @ -----
#TEXT = @ ----- Field Materials
#TEXT = @ -----
Write =
END

```

```

REPORT = SHP

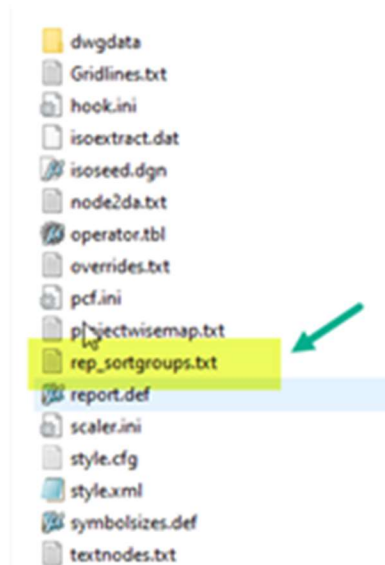
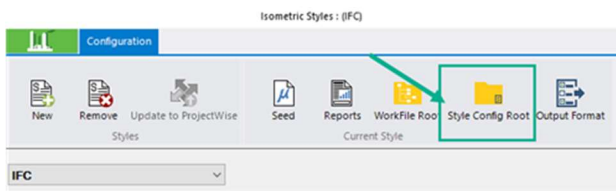
# this to include only shop material
INCLUDE = IE_FIELD=0
EXCLUDE = IE_TYPE=CT_WELD

GROUP = PARTID
SORT = PARTID:N
SEP = @
SORTHEADERS = 1
#TEXT = @ -----
#TEXT = @ Shop Materials
#TEXT = @ -----
Write =
END

#-----
REPORT = combi
WRITE = shp
#TEXT = @
#TEXT = @
WRITE = fld
NODE = 60
END

```

4. 单击 Style configuration Root, 打开 rep_sortgroups.txt 文件, 如图所示。
(同理, 也可以直接直接导航到对应工作集下的 Standards\OpenPlant\Isometrics\styles\IFC\config 文件夹打开 rep_sortgroups.txt 文件)



5. 在该文件中，如图所示设置顺序

```
SORTGROUP = PIPES 1
HEADER = @ -----
HEADER = @ Pipes
HEADER = @ -----
RULE = IE_TYPE=CT_PIPE|CT_BEND

# The fitting group is defined here because we want
# PIPES group in the report. No Rules are yet defin
# component types belong to this group
#
SORTGROUP = FITTINGS 2
HEADER = @ -----
HEADER = @ Fittings
HEADER = @ -----

SORTGROUP = GASKETS 3
HEADER = @ -----
HEADER = @ Gaskets
HEADER = @ -----
RULE = IE_TYPE=CT_GASKET

SORTGROUP = BOLTS 4
HEADER = @ -----
HEADER = @ Bolts
HEADER = @ -----
RULE = IE_TYPE=CT_BOLT

SORTGROUP = VALVES 5
HEADER = @ -----
HEADER = @ Valves
HEADER = @ -----
RULE = IE_TYPE = .*VALVE.*

SORTGROUP = SUPPORTS 6
HEADER = @ -----
HEADER = @ Supports
HEADER = @ -----
RULE = IE_TYPE=CT_SUPPORT
```

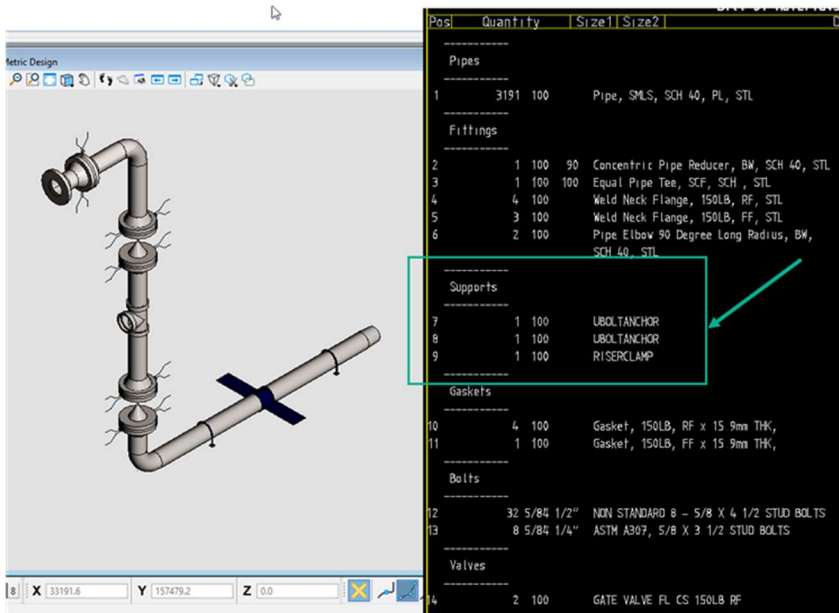
6. 如果滚动到此文件的底部，如图所示，也可以按顺序设置更多管件。目前，我们设定的顺序是 Reducer > Flange > Elbow

```
SORTGROUP = FITTINGS
| RULE = IE_TYPE = CT_PIPESPOOL
  RULE = IE_TYPE = CT_REDUCER
  RULE = IE_TYPE = CT_ECCENTRIC_REDUCER
  RULE = IE_TYPE = .*FITTING.*
  RULE = IE_TYPE = CT_FLANGE
  RULE = IE_TYPE = CT_ELLOW
  RULE = IE_TYPE = CT_LAPJOINT
  RULE = IE_TYPE = CT_STUB
  RULE = IE_TYPE = CT_FERRULE
  RULE = IE_TYPE = CT_OLET
  RULE = IE_TYPE = CT_STRAINER.*
  RULE = IE_TYPE = CT_INSTRUMENT.*
  RULE = IE_TYPE = CT_RETURN.*
  RULE = IE_TYPE = CT_ADDITEM
# the last rule is a catch all
  RULE = IE_TYPE = CT_.*
```

7. 保存所有文件并重新生成 ISO 图并验证结果，如图所示。

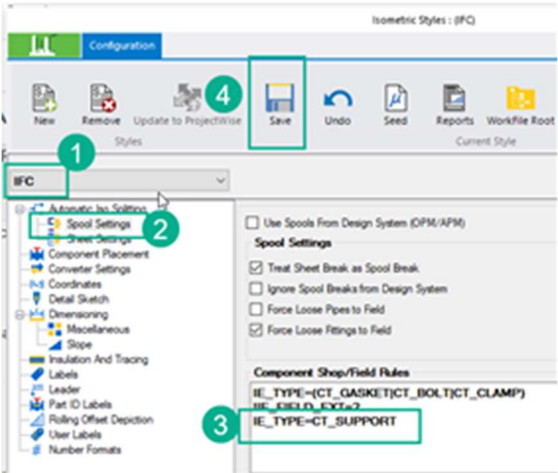
Bill of Materials				
Pos	Quantity	Size1	Size2	Description
Pipes				
1	3191	100		Pipe, SMLS, SCH 40, PL, STL
Fittings				
2	1	100	90	Concentric Pipe Reducer, BW, SCH 40, STL
3	1	100	100	Equal Pipe Tee, SCF, SCH , STL
4	4	100		Weld Neck Flange, 150LB, RF, STL
5	3	100		Weld Neck Flange, 150LB, FF, STL
6	2	100		Pipe Elbow 90 Degree Long Radius, BW, SCH 40, STL
Gaskets				
7	4	100		Gasket, 150LB, RF x 15 9mm THK,
8	1	100		Gasket, 150LB, FF x 15 9mm THK,
Bolts				
9	32	5/8 1/2"		NON STANDARD 8 - 5/8 X 4 1/2 STUD BOLTS
10	8	5/8 1/4"		ASTM A307, 5/8 X 3 1/2 STUD BOLTS
Valves				
11	2	100		GATE VALVE FL CS 150LB RF

8. 此时报表中的顺序和之前的需求基本一致，但是当我们在 OPM 中放置支吊架的之后，再生成 ISO 图的时候，可以看道 BOM 中支吊架的位置并不在最后：



Pos	Quantity	Size1	Size2	Description
Pipes				
1	3191	100		Pipe, SMLS, SCH 40, PL, STL
Fittings				
2	1	100	90	Concentric Pipe Reducer, BW, SCH 40, STL
3	1	100	100	Equal Pipe Tee, SCF, SCH , STL
4	4	100		Weld Neck Flange, 150LB, RF, STL
5	3	100		Weld Neck Flange, 150LB, FF, STL
6	2	100		Pipe Elbow 90 Degree Long Radius, BW, SCH 40, STL
Supports				
7	1	100		UBOLTANCHOR
8	1	100		UBOLTANCHOR
9	1	100		RISERCLAMP
Gaskets				
10	4	100		Gasket, 150LB, RF x 15 9mm THK,
11	1	100		Gasket, 150LB, FF x 15 9mm THK,
Bolts				
12	32	5/8 1/2"		NON STANDARD 8 - 5/8 X 4 1/2 STUD BOLTS
13	8	5/8 1/4"		ASTM A307, 5/8 X 3 1/2 STUD BOLTS
Valves				
14	2	100		GATE VALVE FL CS 150LB RF

9. 点击 Style configuration, 选择所需样式, 比如 IFC, 然后点击 Spool settings, 如图添加规则"IE_TYPE=CT_SUPPORT", 然后保存设置



10.重新生成 ISO 图并验证结果, 如图所示

BOM OF Materials				
Pos	Quantity	Size1	Size2	Description
Pipes				
1	3191	100		Pipe, SMLS, SCH 40, PL, STL
Fittings				
2	1	100	90	Concentric Pipe Reducer, BW, SCH 40, STL
3	1	100	100	Equal Pipe Tee, SCF, SCH , STL
4	4	100		Weld Neck Flange, 150LB, RF, STL
5	3	100		Weld Neck Flange, 150LB, FF, STL
6	2	100		Pipe Elbow 90 Degree Long Radius, BW, SCH 40, STL
Gaskets				
7	4	100		Gasket, 150LB, RF x 15 9mm THK,
8	1	100		Gasket, 150LB, FF x 15 9mm THK,
Bolts				
9	32	5/8" 1/2"		NON STANDARD 8 - 5/8 X 4 1/2 STUD BOLTS
10	8	5/8" 1/4"		ASTM A307, 5/8 X 3 1/2 STUD BOLTS
Valves				
11	2	100		GATE VALVE FL CS 150LB RF
Supports				
12	1	100		UBOLTANCHOR
13	1	100		UBOLTANCHOR
14	1	100		RISERCLAMP