

## **ISOMETRIC IFC - CHECK LIST**

Line Number	021602WSS0005	Stress CN / Level	N° -	Level: I
Isometric Number	023A1021602WSS0005_01	Process Approval Required	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
		Intrumentation Approval Required (N/A)	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<b>Information to be attached:</b>				
Master Copy of PID:	YES <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	N° 800124-026-PID-0021-001	Rev. 1 IFC
PID Modification Sheet:	YES <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	N° 	Rev.
Equipment Vendor Dwg.:	YES <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	N° 	Rev.
Instrument Dwg.:	YES <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	N° 	Rev.
Project By-Pass <sup>(4)</sup> :	YES <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	N° BFLY-BYP-STU-ISOS-046	Rev.
SPO Approved Isometric:	YES <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	Rev.	Extraction Date:
SIT Approved Isometric:	YES <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	Rev.	Extraction Date:



TechnipFMC – Butterfly Project

HOLD

Nº	SHORT DESCRIPTION	RESOLVED (✓)

**A VERIFICAR / TO BE CHECKED**

**Revision By : (D) Designer / (LDG) Design Leader / (ST) Stress Specialist / (LST) Stress Leader /  
(SP) Supports Specialist / (LSP) Supports leader / (M) Materials / (SL) Spooler / (CHK) Issuer / (L) Discipline Lead**

Revision By : (D) Designer / (LDG) Design Leader

Iso Information	Nº de línea según PID y lista de líneas / Line Nbr. according to PID and line list  Datos de la línea según lista de líneas / Line data according to line list  Clase de tubería según PID y Lista de Líneas / Piping class according to PID and Line List  Vinculo E3D con Diagramas (Process Unit, Temp Operación, Numeracion TODAS válvulas manuales) / Link between E3D and Diagrams (Process Unit, Op Temp, ALL manual valves Tagged)	
	Diámetro de la línea indicado en número de línea en el cajetín / Line diameter indicated in the line number in the title block	
	Equipo modelado según plano Vendor válido para generar isométrica IFC / Equipment modelled according Vendor drawing valid for Isometric IFC generation Código / Code: 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/>	N/A
	Nombre de tubuladuras según PID y plano Vendor / Name of nozzle according to PID and Vendor drawing	N/A
	Rating y diámetro de tubuladuras según plano Vendor / Rating and diameter of nozzles according to vendor drawing	N/A
	Posición y elevación de tubuladuras según plano Vendor / Position and elevation of nozzles according to Vendor drawing	N/A

Revision By : (D) Designer / (LDG) Design Leader	
Line Design	Línea sin colisión (verificación incluyendo la nube de puntos) / Line is clash free (checked including points cloud)
	Comentarios de SPO a líneas críticas recibidos e implementados antes de extracción final para emisión / Process comments to critical lines received and implemented before final extraction for issuance N/A
	Verificación contra P&ID y Lista de Líneas / Check Iso vs P&ID and Line List : Correcta referencia de la continuidad de la isométrica en líneas nuevas, líneas existentes u otra hoja de la isométrica en los extremos de línea y sus ramales, incluyendo elevaciones y coordenadas / Correct continuity isometric reference to new lines, existing lines or other isometric sheet in each end of the line and its branches including elevations and coordinates
	Verificación contra P&ID / Check Iso vs P&ID : Elementos en línea incluidos, secuencia de picajes, pendiente, sentido de flujo, numeración de instrumentos, cambios de especificación, cumplimiento de notas / in-line components included, branch sequence, slope, flow direction, instrument numbering, pipe class breaks, notes accomplishment
	Verificación contra P&ID / Check Iso vs P&ID : Longitudes requeridas de entrada y/o salida a equipos, distancias y/o elevaciones mínimas o máximas requeridas, formación de condensados / Required inlet and/or outlet lengths to equipments, minimum or maximum distances and/or elevations, condensate generation N/A
	Comentarios de SIT a recibidos e implementados antes de extracción final para emisión / Instrumentation comments received and implemented before final extraction for issuance N/A
	Verificación contra Planos de Vendor o Hook-up / Instrumentación / Check Iso vs Instrument Vendor Drawings or Hook-up : Tamaño de las válvulas de control y de seguridad, instalación de acuerdo a hook-up / Size of control valves and safety valves, instrument installation according to hook-up N/A
	Picajes según tabla de picajes correspondiente / Branch configuration according to correspondent branch table N/A
	Venteos y drenajes de Procesos según requerimientos de PIDs y de puntos altos y bajos para prueba hidrostática y modelados según "assembly" correspondiente / Process vents and drains according PID requirements and high and low points for hydrostatic test and modelled according proper assembly N/A
	Verificación de distancia mínima entre soldaduras / Check minimum distance between welds N/A
	Notas explicativas adicionales incorporadas / Additional clarification notes added N/A

By: D		By: LDG	
✓		✓	
✓		✓	
		✓	
✓			
✓		✓	

Stress	Revision By : (ST) Stress Specialist / (LST) Stress Leader El cálculo de stress disponible no está pendiente de revisión en curso / Available stress calculation is not awaiting for revision Los requisitos según el cálculo de stress están incorporados (si son aplicables) / Stress calculation requirements have been added (if applicable)
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By: ST	By: LST

Revision By / (SP) Supports Specialist / (LSP) Supports leader	
Supports	La línea está soportada por completo y la lista de soportes rellena / Line is completely supported and support list updated
	Concepto de soporte y separación máxima entre soportes / Support concept and support spans
	Requerimientos de soportes están de acuerdo al cálculo de stress y ajustados con el especialista de Stress / Support requirements according to stress calculation note are included and adjusted jointly with stress specialist
	Numeración correcta de los soportes / Supports correctly numbered
	Código de soportes correctamente indicados (STD - SPC - COM - MRS - PRF) / Support code correctly indicated (STD - SPC - COM - MRS - PRF)
	Marcado de elementos soldados de los soportes en Iso Spool preliminar correspondiente / Mark-up of welded supports components in the correspondent preliminary Iso Spool
	N/A

By: SP	By: LSP
✓	✓
✓	✓
✓	✓
✓	✓
*****	*****

Revision By : (CHK) Issuer	
Final Check	La isométrica verificada por Procesos (SPO) se corresponde a la última revisión / The isometric verified by Process (SPO) corresponds to its last revision <span style="float: right;">✓</span>
	La isométrica verificada por Instrumentación (SIT) se corresponde a la última revisión / The isometric verified by Instrumentation (SIT) corresponds to its last revision <span style="float: right;">✓</span>
	Las notas a mano están incorporadas en las isométricas / The hand-made annotation is included
	La revisión de los documentos para la verificación siguen siendo las actuales / Current revision of documents for checking are still the latest available
	El número de revisión y la fecha son correctos / The revision number and the date are correct
	Todos los comentarios se han revisado para ser incluidos o descartados / All comments have been checked to be included or discarded
	Holds resueltos o en su defecto By-Pass aprobado / Holds resolved or instead By-Pass approved

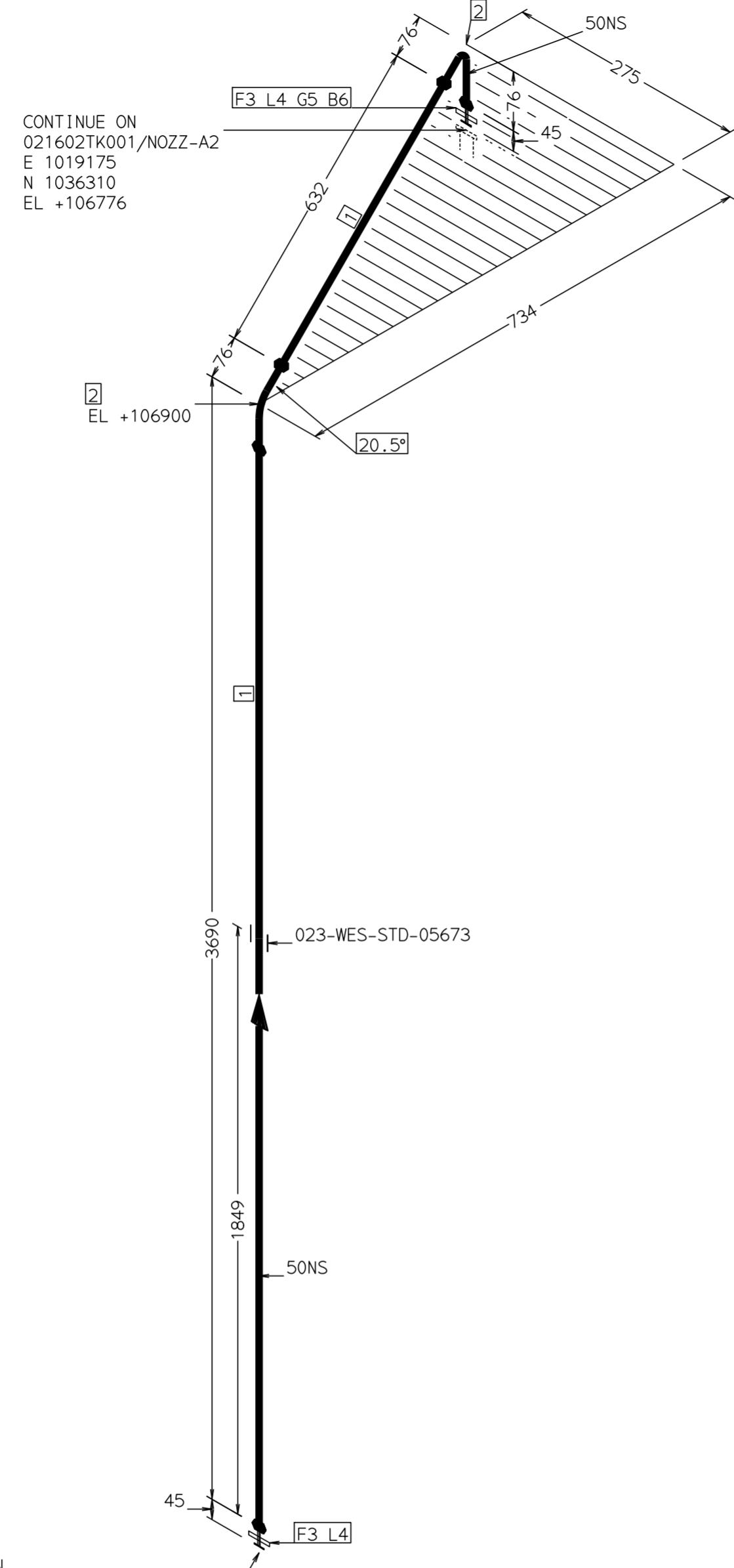
**SIGNATURES (Name and date)**

DESIGN LEADER (LD)	REVIEWED By rvasquezhu at 9:27 am, Feb 18, 2021	SUPPORTS LEADER (LSP)	REVIEWED By Sergio Zamora at 8:25 am, Feb 19, 2021	ISSUER (CHK)	REVIEWED By oscar at 2:25 pm, Feb 19, 2021
STRESS LEADER (LST)		MATERIALS (M)	REVIEWED By Jose G. Suarez at 11:06 am, Feb 19, 2021	DISCIPLINE LEAD (L)	

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**NOTES:**

- [1] If "X" marqued, a "HOLD" note should be included in the Holds area for justification.
  - [2] 1st checking round: Checker to place a (✓) or a (✗) confirming or not Designer verification. A (✓) or a (✗) should also be placed to confirm or reject any (✗) mark placed by the Designer confirming or not the implicit HOLD.
  - [3] 2nd checking round: Checker to place a (✓) to validate the points that were not confirmed in the 1st round and were corrected by respective Specialist.
  - [4] If an isometric with HOLD is approved by IFC Leader for issuance, the correspondent By-Pass should be attached.


**MATERIAL LIST - FABRICATION**

PT NO	N.S. (MM)	DESCRIPTION	IDENT	QTY
1	50	Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2MM EN 10217-7 Gr. X2CrNi19-11,	C1KV256V	4.3M
2	50	90° Elbow LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1P0J0PL	2	
3	50	M.3D, Serie 2, /2MM EN 10253-4 Gr. X2CrNi19-11,	C1KXSGYE	2
4	50	LJ Flg, EN 1092-1 Type 02, FF, PN 16, -, / EN 10222-2 Gr. P245GH Galv. as per EN 10240,	C3J5USTY	2
		Stub LP, EN 1092-1 Type 36, BW Ends, Seamless, PN16 Flgs, /3.2MM EN 10216-5 Gr. X2CrNi19-11,		

**MATERIAL LIST - ERECTION**

PT NO	N.S. (MM)	DESCRIPTION	IDENT	QTY
5	50	NM Flat Gk, EN 1514-1, RF as per EN 1092-1, PN 40, IBC Type, Thk=3.2mm, Klingsil C-4430, TA-Luft & EC1935 (D.S. 5101)/ CNAF,	C1MSERAK	1
6	16	100 SBlt 2 HHx N&W, ISO 261/ISO 4032, Full Length Threaded, F.Wash. EN ISO 887, A2, EN ISO 7089 ISO 3506-1 Gr.A2-70,	C3JHBD7Z	4

**PIPING DPT.**  
**ISSUER**  
**CHECKED**

*By oscar at 2:24 pm, Feb 19, 2021*

0	19/02/21	XFO	LP	OMC	IFC-ISSUED FOR CONSTRUCTION
REV	DATE	DWN	CHK	APP	DESCRIPTION

ALL dimensions to be checked in field prior to construction. Dimensions and routing shall be field adjusted, it is the piping contractors responsibility to check and verify all closing dimensions to equipment and make adjustments as required in field. All dimensions, elevations and coordinates are in millimeter unless noted otherwise. Fieldwelds and overlengths to be determined by piping contractor. Bolt holes to straddle horizontal and vertical centerline unless shown otherwise. Contractor will provide all necessary pipe supports.

**NOTES:**

For pipes < dn50 supporting to be studied and defined by construction contractor before line fabrication and installation.

**REFERENCES / DOCUMENTS**
**SPEC**
**10SS21**
**SYMBOLS**
**PROJECT DESCRIPTION/LOCATION**

BUTTERFLY PROJECT/KREFELD

LINE LIST 30201-042-001000-001

ISOMETRIC INDEX 30303-042-023000-200

PIPING SUPPORT 30207-042-021300-001

Insulated Pipe

Insulated and Traced Pipe

PROCESS UNIT

DESIGN AREA

LINE NUMBER

TRAIN

SHEET

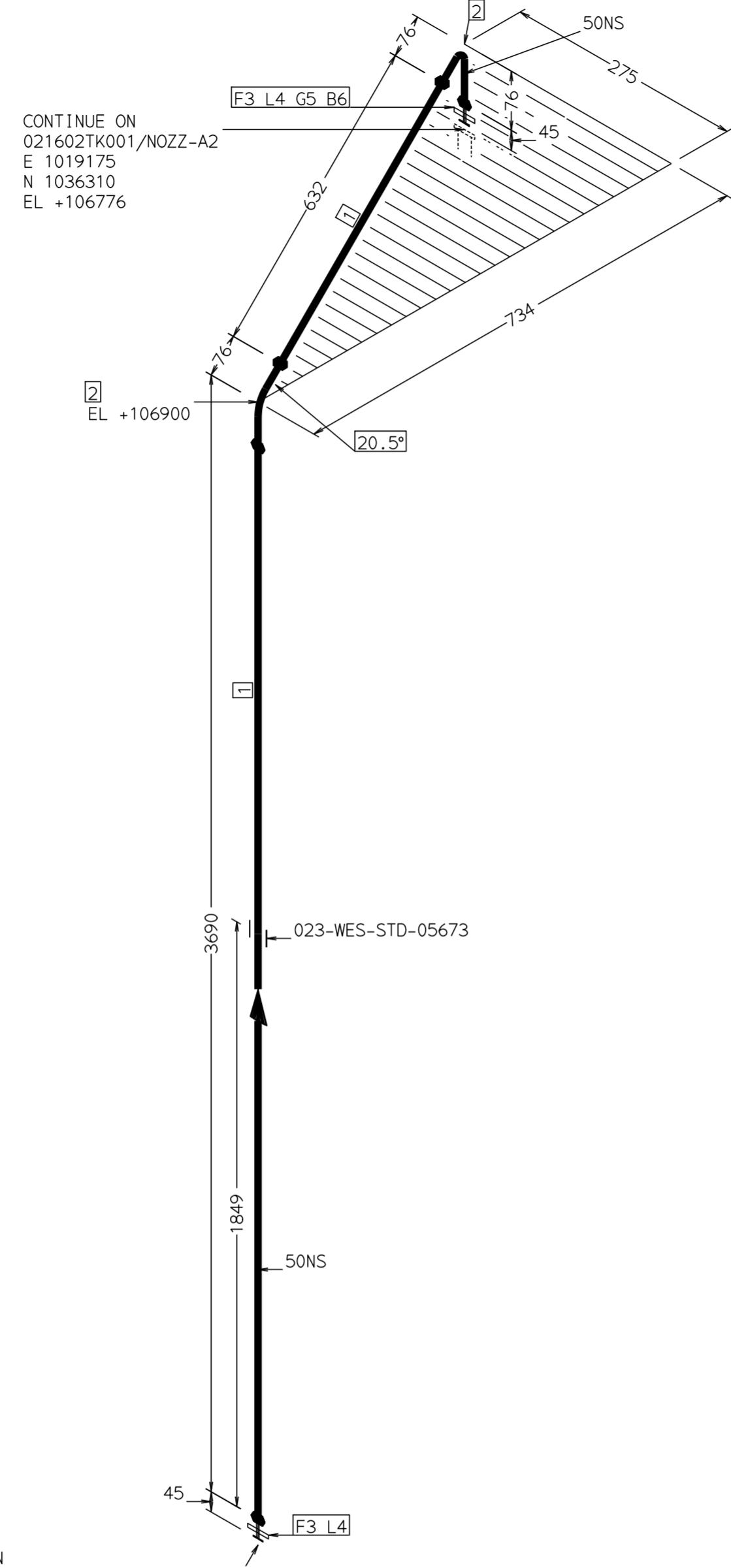
REV

026 023A1 021602-50-WSS-10SS21-0005

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1 OF 1

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N

## MATERIAL LIST - FABRICATION

PT NO	N.S. (MM)	DESCRIPTION	IDENT	QTY
1	50	Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2MM EN 10217-7 Gr. X2CrNi19-11,	C1KV256V	4.3M
2	50	90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1P0J0PL	2	
3	50	M.3D, Serie 2, /2MM EN 10253-4 Gr. X2CrNi19-11,	C1KXSGYE	2
4	50	LJ Flg, EN 1092-1 Type 02, FF, PN 16, -, / EN 10222-2 Gr. P245GH Galv. as per EN 10240,	C3J5USTY	2
		Stub LP, EN 1092-1 Type 36, BW Ends, Seamless, PN16 Flgs, /3.2MM EN 10216-5 Gr. X2CrNi19-11,		

## MATERIAL LIST - ERECTION

PT NO	N.S. (MM)	DESCRIPTION	IDENT	QTY
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6	16	100 SBlt 2 HHx N&2W, ISO 261/ISO 4032, Full Length Threaded, F.Wash. EN ISO 887, A2, EN ISO 7089 ISO 3506-1 Gr.A2-70,	C3JHBD7Z	4

**PIPING DPT.  
MATERIALS  
CHECKED**

*By Jose G. Suarez at 11:06 am, Feb 19, 2021*

0	19/02/21	XFO	LP	OMC	IFC-ISSUED FOR CONSTRUCTION
REV	DATE	DWN	CHK	APP	DESCRIPTION

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## NOTES:

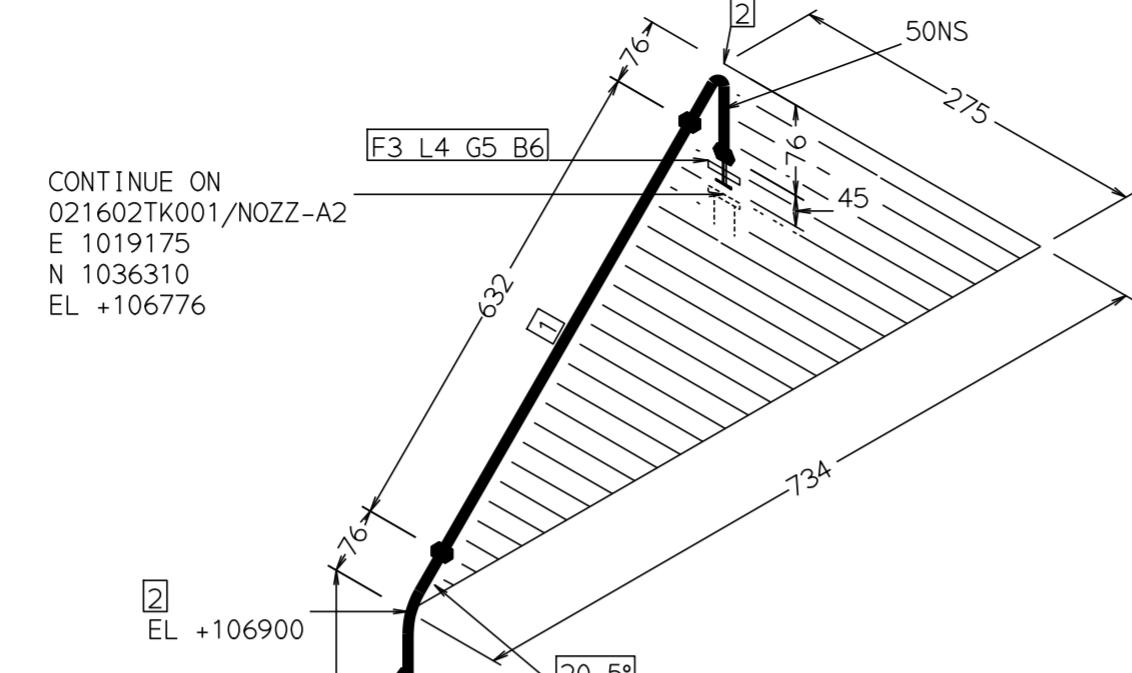
For pipes < dn50 supporting to be studied and defined by construction contractor before line fabrication and installation.

## REFERENCES / DOCUMENTS

## SPEC

## SYMBOLIC

PROJECT DESCRIPTION/LOCATION				TechnipFMC	Cargill	
BUTTERFLY PROJECT/KREFELD						
PROCESS UNIT	DESIGN AREA	LINE NUMBER		TRAIN	SHEET	REV
026	023A1	021602-50-WSS-10SS21-0005		01	1 OF 1	0



CONTINUE ON  
023A1-021602-50-WSS-16SS21-0038\_01  
E 1019450  
N 1035576  
EL +103166

#### NOTES:

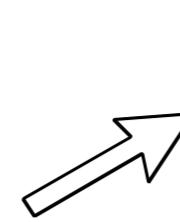
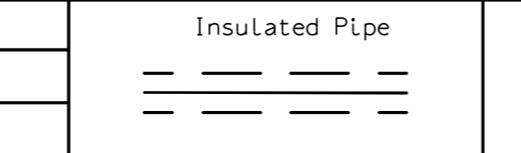
For pipes < dn50 supporting to be studied and defined by construction contractor before line fabrication and installation.

#### REFERENCES / DOCUMENTS

LINE LIST	30201-042-001000-001
ISOMETRIC INDEX	30303-042-023000-200
PIPING SUPPORT	30207-042-021300-001

#### SPEC

#### SYMBOLS



#### MATERIAL LIST - FABRICATION

PT NO	N.S. (MM)	DESCRIPTION	IDENT	QTY
1	50	Pipes (Length), EN 10220, BE, EFW + 100% RT, -, /2MM EN 10217-7 Gr. X2CrNi19-11,	C1KV256V	4.3M
2	50	90° Elbow LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1P0J0PL	2	
3	50	M.3D, Serie 2, /2MM EN 10253-4 Gr. X2CrNi19-11,	C1KXSGYE	2
4	50	LJ Flg, EN 1092-1 Type 02, FF, PN 16, -, / EN 10222-2 Gr. P245GH Galv. as per EN 10240,	C3J5USTY	2
		Stub LP, EN 1092-1 Type 36, BW Ends, Seamless, PN16 Flgs, /3.2MM EN 10216-5 Gr. X2CrNi19-11,		

#### MATERIAL LIST - ERECTION

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6	16	100 SBlt 2 HHx N&W, ISO 261/ISO 4032, Full Length Threaded, F.Wash. EN ISO 887, A2, EN ISO 7089 ISO 3506-1 Gr.A2-70,	C3JHBD7Z	4

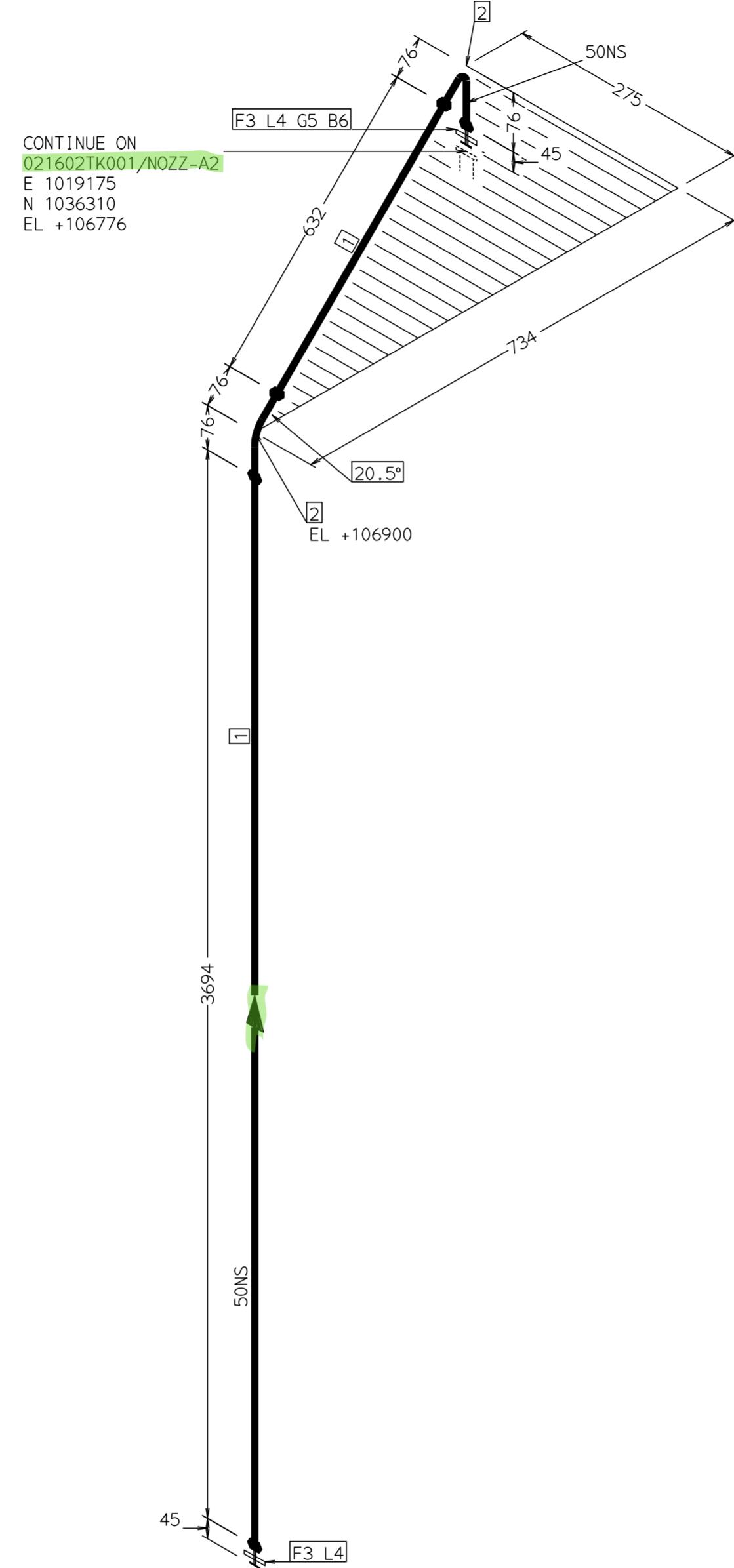
**PIPING DPT.  
SUPPORTED**  
By D. Navarro at 5:02 pm, Feb 18, 2021

**PIPING DPT.  
SUPPORTS  
CHECKED**  
By Sergio Zamora at 8:26 am, Feb 19, 2021

0	19/02/21	XFO	LP	OMC	IFC-ISSUED FOR CONSTRUCTION
REV	DATE	DWN	CHK	APP	DESCRIPTION

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PROCESS UNIT	DESIGN AREA	LINE NUMBER			TRAIN	SHEET	REV
		026	023A1	021602-50-WSS-10SS21-0005			
					01	1 OF 1	0



N

## MATERIAL LIST - FABRICATION

PT NO	N.S. (MM)	DESCRIPTION	IDENT	QTY
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2	50	90° Elb LR, EN 10253-4 Type A, BW Ends, Welded + 100% RT, C1P0J0PL	2	
3	50	M.3D, Serie 2, /2MM EN 10253-4 Gr. X2CrNi19-11,	C1KXSGYE	2
4	50	LJ Flg, EN 1092-1 Type 02, FF, PN 16, -, / EN 10222-2 Gr. P245GH Galv. as per EN 10240,	C3J5USTY	2
		Stub LP, EN 1092-1 Type 36, BW Ends, Seamless, PN16 Flgs, /3.2MM EN 10216-5 Gr. X2CrNi19-11,		

## MATERIAL LIST - ERECTION

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6	16	100 SBlt 2 HHx N&W, ISO 261/ISO 4032, Full Length Threaded, F.Wash. EN ISO 887, A2, EN ISO 7089 ISO 3506-1 Gr.A2-70,	C3JHBD7Z	4

PIPING DPT.  
**DESIGNED**  
By xavier foz at 11:14 am, Feb 12, 2021

PIPING DPT.  
**DESIGN CHECKED**  
By rvasquezhu at 9:28 am, Feb 18, 2021

0	19/02/21	XFO	LP	OMC	IFC-ISSUED FOR CONSTRUCTION
REV	DATE	DWN	CHK	APP	DESCRIPTION

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NOTES:  
For pipes < dn50 supporting to be studied and defined by construction contractor before line fabrication and installation.

## REFERENCES / DOCUMENTS

LINE LIST	30201-042-001000-001
ISOMETRIC INDEX	30303-042-023000-200
PIPING SUPPORT	30207-042-021300-001

## SPEC

## SYMBOLS

## 10SS21

## SYMBOLS

Insulated Pipe	Insulated and Traced Pipe
— — — —	— — — —

## PROJECT DESCRIPTION/LOCATION

## BUTTERFLY PROJECT/KREFELD

PROCESS UNIT	DESIGN AREA	LINE NUMBER	TRAIN	SHEET	REV
026	023A1	021602-50-WSS-10SS21-0005	01	1 OF 1	0