# Material Configuration & Steel Construction

EL1

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#### Are you an attendee in a DigiPara Liftdesigner online training module?

We recommend to print these out in advance so that you have a handout for your own editing and for your notes during your training.



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#### EL1.1 Material Configuration

- General Information & View Frame related Settings
  - Material and hatching settings in elevator models as well as in view frames
- Shaft & Machine Room Walls
  - Determining different materials for the shaft and machine room depending on requirements
- Pit & Ceiling
  - Determination of the materials as well as different material heights
- Floor Levels
  - Individual setting of materials for different floors and definition of important material heights
- Preferences
  - Customize your own materials and hatchings



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#### EL1.2 Additional Objects

- General Information
  - What are additional objects in DigiPara Liftdesigner?
- Additional Child Objects
  - Creating and placing freely definable user components
- Additional Wall Openings
  - Creating and placing freely definable openings
- Additional Wall Segments
  - Creating and placing freely definable segments (e.g., Concrete)

## Agenda PRACTICAL EXAMPLE: STEEL SHAFT

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#### EL1.3 Additional Wall Openings

- Create a new wall opening
  - Adjust the size and designation
  - Adjust the wall opening depth

#### EL1.4 Additional Child Objects

- Create a new user component
  - Set the component group
  - Define the designation and color
  - Adjust the size and position
  - Copy and adjust the designation and position

#### EL1.5 Additional Child Objects Group

- Create complete child object groups
  - Add and define an empty parent user component (Used as Zero Point)
  - Create, define and copy subordinated user components
  - Align the child object group
  - Copy, rename and position complete child object groups



#### EL1.6 Slanted Roof

- Activate the Roof component
- Create different typical Slanted Roofs
- Slanted Roof upper beam installation
- Create untypical Slanted Roofs

#### EL1.7 Summary

Custom Q&A's



# Material Configuration



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#### Shaft Wizard

- 5 floors
- Typical floor to floor distance 3000 mm
  - Consider travel no
  - Create building floor levels no
- Traction elevator 2:1
- 13 persons / 1000 kg, 1 m/s
- Machine room
  - top
- Car roping
  - 2 pulleys below
  - without CW safety gear
- Counterweight roping
  - 1 pulley top
  - Counterweight right
- Sheet templates
  - LD A4 3D View

#### Further specifications

- Car size
  - Car width: 1600 mm
  - Car depth: 1400 mm
- Entrances
  - Front: all floors
  - Rear: first and last level
- Individual floor to floor distance
  - Pit: 1200 mm
  - E1: 2900 mm
  - E2: 3000 mm
  - E3: 3000 mm
  - E4: 3800 mm
- Save the project under the following file name: LDTrainingMaterials.ld3

# General Information & View Frame related Settings

EL1.1 MATERIAL CONFIGURATION

# Material configurations are defined via the Group and Shaft Configurator for the entire elevator project.



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# General Information & View Frame related Settings

EL1.1 MATERIAL CONFIGURATION

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#### Classic material hatching:

All view frames use the same setting: Type and scale by document



Pr	operties	Р	×		
Loc	ck Update Sheet frame 2 [LdvFrame	e2.]		1	
> > >	[2001] Level of Developmen [2500] Drawing Style [3611] Hatch	t (LOD)			Material Configuration
	Show hatch	Yes			matchar comigaration
	Show fake hatch	No			
	Expose hidden materials	Yes			
	Angle	45			
	Scale	50			Default setting
	Pattern	LINE			
	Classic material hatching	Type and scale by document	t		
1	Profile Center Lines	Show			
>	[3612] Basis Point				
>	[3613] Detail section				
>	[3620] Vertical positions in	this section		 Activ	ate section plane to
>	[3621] Dimensions			 shov	v the corresponding
>	[3622] Clipping Plane				hatching
>	[3623] Dimension Groups				natering
	[3624] Shaft section			-	
	Enable section plane	Yes			
	Section plane reference point	Displayed Floor Level			
	Section plane DZ	1100			

# General Information & View Frame related Settings

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EL1.1 MATERIAL CONFIGURATION

#### Classic material hatching:

• For individual settings on the view frame: Type and scale by sheet frame



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**EL1.1 MATERIAL CONFIGURATION** 

#### Default setting for shaft walls: Classic

Crossing the shaft wall elements with the mouse cursor to check the set material



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EL1.1 MATERIAL CONFIGURATION

### Shaft walls: Selection options

- Select all
  - via the corresponding button



- Select individual elements
  - via the direct selection in the shaft symbol



- Clear selection
  - Discard previous selection



**EL1.1 MATERIAL CONFIGURATION** 

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#### Shaft walls: Material selection

via the predefined list



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**EL1.1 MATERIAL CONFIGURATION** 

#### Default setting for machine room walls: Classic

Crossing the MR wall elements with the mouse cursor to check the set material



**EL1.1 MATERIAL CONFIGURATION** 

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#### Machine room walls: Selection options & material selection

equal to the shaft setting options



# V Pit & Ceiling





## Pit & Ceiling EL1.1 MATERIAL CONFIGURATION

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#### Material selection

via the predefined lists





#### Height settings

Crossing the input boxes with the mouse cursor for a dimension display



## Pit & Ceiling EL1.1 MATERIAL CONFIGURATION

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#### Height settings

- Newly entered values are automatically updated throughout the project
  - by the option: Update automatically



# Pit & Ceiling – General Information

**EL1.1 MATERIAL CONFIGURATION** 

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Shaft group related settings





Page - 23 - November 19, 2024

# Floor Levels

## **Floor Levels EL1.1 MATERIAL CONFIGURATION**

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setting II levels	Floor Le	evels	: Concrete			Flo	Floor Levels							
		Ger	neral		Heights			Building Floor Levels	Other					
	Use Standard	Level	Material		Material Height	Raw Floor	Floor Finish	Create	Ceiling Height	Serving Height				
	Standard d	lefinition	P Concrete	•	350	250	50	V	2300	0				
	☑	4 12700	P in P Concrete		350	250	50	<b>V</b>	2300	0				
	☑	3 8900	P Concrete		350	250	50	$\checkmark$	2300	0				
	⊻	2 5900	P Concrete	×.	350	250	50	$\checkmark$	2300	0				
	⊻	1 2900	P concrete	×.	350	250	50	$\checkmark$	2300	0				
	2	0 0	P Concrete		350	250	50	<b>V</b>	2300	0				

Default

for a

#### Height settings

Crossing the input boxes with the mouse cursor for a dimension display



#### Setting various heights for different floors

by removing the checkmark from the standard definition

	Ge	neral			Heights		Building Floor Levels	Other		
Use Standard Level		Material	Material Raw Floo Height		Floor Finish	Create	Ceiling Height	Serving Height		
Standard definition		P Concrete	۳	350	250	50	V	2300	0	
	4 12700	P Concrete	Ŧ	350	250	50	V	2300	0	
	3 8900	P Concrete	۳	350	240	60	✓	2300	0	
<b>_</b>	2 5900	P Concrete	T	350	250	50	✓	2300	0	
	1 2900	Concrete	۳	350	230	70	✓	2300	0	
	0	P Concrete	۳	350	250	50	$\checkmark$	2300	0	

#### **Building Floor Levels**

- activate or deactivate via the corresponding check mark
- Adjust the floor width and depth using the corresponding fields

	Buil	ding Floor	Levels	•	Oth	er
Create	Floor Width Left	Floor Width Right	Floor Depth Front	Floor Depth Rear	Ceiling Height	Serving Height
✓	500	500	2000	500	2300	0
<b>V</b>	500	500	2000	500	2300	0
	500	500	500	500	2300	0
	500	500	2000	500	2300	0
	500	500	500	500	2300	0
$\checkmark$	500	500	2000	500	2300	0



#### Define your own materials and hatchings for use in the DigiPara Liftdesigner project

Preferen	ces											
General	2D	Hatching	g		3D Rendering							
Designation	Pattern		Angle So		Surface	Texture	Angle Scale		G Alic Preferences			
Floor Finish	LINE	•	0	0	Floor Texture, Marble 06		0	1000	2	V		
Concrete Beam	AR-CONC	•	45	0.5	Wall Texture, Concrete 02		0	1000	✓			
Concrete	AR-CONC		45	0.5	Wall Texture, Concrete 02		0	1000	<b>V</b>			
Brick	BRICK	•	0	10	Wall Texture, Brick 01		0	1000	V	V		
Classic	LINE	•	45	50	Wall Texture, Brick 01		0	1000		V		

#### Set the 2D hatching

- Pattern
- Angle
- Scale



### Preferences EL1.1 MATERIAL CONFIGURATION

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#### Determine the 3D rendering

- Surface
- Texture
- Angle
- Scale
- Global Alignment
- Repeat Textures

# EL1.2

# Additional Objects

Basics





# **General Information**

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EL1.2 ADDITIONAL OBJECTS

Additional Child Objects (User Component)

Additional Wall Openings

Additional Wall Segments

# Additional Objects can be created via the Additional

**EL1.2 ADDITIONAL OBJECTS** 

# Objects docking window

General Information

The content of the docking window depends on the selected object.





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# Additional Child Objects User Component
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Can be defined by the user

Are created on the basis of predefined profile types (I-profile, U-profile, T-profile, etc.)

Can be used to create additional, non standard geometry in the drawing

Get created via the corresponding property of the selected shaft component (e.g. the shaft door)

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Get inserted relatively to the basis point of the selected component.

- Can be created in an unlimited number
- Can contain additional child objects as well

Are created on a project basis. Additional child objects do not influence the selected basis component permanently.

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**EL1.2 ADDITIONAL OBJECTS** 

#### Create by selecting a parent component (e.g., Shaft)

- Additional Child Objects
- Add new



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via the Navigator window





O A DigiPara Node File on my Computer

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EL1.2 ADDITIONAL OBJECTS

#### Assign the component group to control the visibility of the new user component.



6

Switch

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EL1.2 ADDITIONAL OBJECTS







#### **EL1.2 ADDITIONAL OBJECTS**

#### Example: Positioning Profile manually with equations

- Set position and angle calculation to "Manually by Equations"
  - The property 3D Parameter are now available for equations

Breadcrumb		<b>д X</b>	
<ul> <li>Favorites</li> <li>Options</li> </ul>			
Properties		÷ ×	
Lock Update Training profile [ Training prof	le.]		
> [0010] Tools			
> [0018] Additional Child Object	Settings		
> [0020] General			
> [0021] I-Type			
> [0022] Project Level Geometry	Information		
[0024] Product Options			
V [0026] Location			
Position and angle calculation	Manually	~	
X0 [mm]	Automatically		
Y0 [mm]	Manually		
Z0 [mm]	Manually by Equations		
3635] View Frame Settings			
> [3805] Render			
[4210] Product Administration			

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Breadcrumb	<b>д х</b>	
Document. Shaft0. Training profile.		
Favorites		
Options		
Properties	<del>т</del> ж	
Lock Update Training prof	ile [ Training profile.]	
<ul> <li>[0026] Location</li> </ul>		
Position and angle c	alculation Manually by Equations 🗸	
X0 [mm] = 400	400	
Y0 [mm] = 902.5	902.500000	
Z0 [mm] = 1000	1000	
<ul> <li>[0520] 3D Paramet</li> </ul>	er	
[0]: CW	1600	
[1]: CD	1400	
[2]: CH	2000	
[3]: CEILING	0	
[4]: DZ_SPACE	200	
[5]: ISO_DZ	30	
[6]: FLOOR_PLATE_D2	Ζ 0	
[7]: UC_DZ	50	
[10]: DX	2180	
[11]: DY	1960	
[12]: DZ	17900	
[13]: PIT	1200	
[14]: TRAVEL	12700	
[15]: OVERHEAD	4000	
[20]: X0	0	
[21]: Y0	0	
[22]: Z0	0	

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**EL1.2 ADDITIONAL OBJECTS** 

#### Example: Positioning Profile manually with equations

- Use 3D Parameter to set up an equation to position the profile in the headroom
  - X0 [mm] = 0.5\*CW +180 // CW = Car Width
  - Y0 [mm] = 0.5\*CD +280 // CD = Car Depth
  - Z0 [mm] = DZ 1000 // DZ = Shaft Height

eadcrumb		<b>4</b> ×
ocument. Shaft0. Training prof	ile. 🔻	
Favorites		
Options		
operties		Ф X
ck Update Training profile [Training	profile.]	
[0026] Location		
Position and angle calculation	Manually by Equations	
X0 [mm] = 980	180 + 0.5*CW	
Y0 [mm] = 980	280 + 0.5*CD	
Z0 [mm] = 16900	-1000 + DZ	
[0520] 3D Parameter		
[0]: CW	1600	
[1]: CD	1400	
[2]: CH	2000	
[3]: CEILING	0	
[4]: DZ_SPACE	200	
[5]: ISO_DZ	30	
[6]: FLOOR_PLATE_DZ	0	
[7]: UC_DZ	50	
[10]: DX	2200	
[11]: DV	1960	_
[12]: DZ	17900	
[13]: PIT	1200	
[14]: TRAVEL	12700	d
[15]: OVERHEAD	4000	
[20]: X0	0	
[21]: Y0	0	
[22]: Z0	0	

# Additional Wall Openings

# Additional Wall Openings

**EL1.2 ADDITIONAL OBJECTS** 

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# Additional Wall Segments

# Additional Wall Segments

**EL1.2 ADDITIONAL OBJECTS** 

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# Additional Wall Segments

**EL1.2 ADDITIONAL OBJECTS** 

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#### Use the properties window of the selected additional wall segment to adjust a specific material



P	roperties		д
Lo	ock Update Wall Segment 0 [Segment0.		
	DZ [mm] ( 1 )	2600	
	Z1 [mm]	1000	
	Show Z-dimensions	No	
>	[0042] Wall Segment Width		
>	[0043] Wall Segment Depth		
>	[0405] Dimensions		
>	[0406] Wall Segment Paramet	ers	
>	[3635] View Frame Settings		
v	[3805] Render		
	Alternative material	Concrete Beam	
	Hatching X-Direction	No	
	Hatching Y-Direction	No	
	Hatching Z-Direction	Yes	
	All available Surfaces	111400001	-
	exture Angle	0	
	Texture Scale	1000	
	Texture Alignment	Global	
	Texture Option	Repeat Texture are wide	
>	[4210] Product Administration	1	



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# EL1.3

Additional Wall Openings

Practical example: Steel Shaft





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#### Shaft Wizard

- 5 floors
- Typical floor to floor distance 3000 mm
  - Consider travel no
  - Create building floor levels no
- Traction elevator 2:1
- 13 persons / 1000 kg, 1 m/s
- MRL
  - top
- Car roping
  - 2 pulleys below
  - without CW safety gear
- Counterweight roping
  - 1 pulley top
  - Counterweight right
- Sheet templates
  - Not necessary

#### Further specifications

- Car size
  - Car width: 1600 mm
  - Car depth: 1400 mm
- Entrances
  - Front: all floors
  - Rear: first and last level
- Individual floor to floor distance
  - Pit: 1200 mm
  - E1: 2900 mm
  - E2: 3000 mm
  - E3: 3000 mm
  - E4: 3800 mm
- Save the project under the following file name: LDTrainingSteelShaft.ld3

#### **Practical Example EL1.3 ADDITIONAL WALL OPENINGS**

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 $\mathbf{\hat{\circ}}$ 

- Plan, View from Left, 3D View
- Switch off components which are not required for the project processing. Switch



## Create a new Wall Opening

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EL1.3 ADDITIONAL WALL OPENINGS

#### Create a new opening by

- selecting the shaft as parent component
  - clicking on the Add new button under the Additional Wall Opening entry

Shaft0

Additional Child Objects(0)

Additi

DigiPara Geometry(0)
 Characteristic points(0)
 Additional Wall Openings

Breadcrumb Document.

Favorites
 Options

Additional Objects

Add new



**EL1.3 ADDITIONAL WALL OPENINGS** 

#### Adjust the size and designation

Create a new Wall Opening









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# Create a new Wall Opening

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EL1.3 ADDITIONAL WALL OPENINGS

#### Adjust the wall opening depth

 via the corresponding Properties docking window



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# EL1.4

Additional Child Objects

Practical example: Steel Shaft





#### Expected Result EL1.4 ADDITIONAL CHILD OBJECTS

#### Corner profiles



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EL1.4 ADDITIONAL CHILD OBJECTS

#### Insert a new child object by

- selecting the shaft as parent component
  - clicking on the Add new button under the Additional Child Objects entry



Document. Sh	aft0. 🔻	
Favorites	_	
Options		
Additional Obj	ects	
Additional	Cild Objects(0)	
Add nev	) Ometry(0)	 
Characteris	stic points(0)	
	Wall Openings	
Additional	wan openings	



#### iftdesigner 🕫

**EL1.4 ADDITIONAL CHILD OBJECTS** 

#### Choose the profile type via the navigator dialog

- Variable Profiles
  - I-Type, Vertical



# STEP 1: Select a Model Target location in Data Tree: O DigiPara Cloud Server O A 3D CAD File on my Computer O A User Component from the DigiPara BIM Library

Common components USERC RID=14

O A DigiPara Node File on my Computer



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EL1.4 ADDITIONAL CHILD OBJECTS

#### Assign the component group this profile shall be part of

• The component group can be assigned also via the Properties of the new profile



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EL1.4 ADDITIONAL CHILD OBJECTS

#### Define the designation and color

- via the profile Properties
  - Corner profile 1
  - RID 25000

🔡 DigiPara Liftdesigner - Select Product					×
Tree View		Table	e View	Ę	× ×
sal 🔚 🗶 🕂 👬		0	GL_TEMP_PREVIEW	PGOGL_SUB_DESC	-
MF_DISPLAY_DESC, PGOGL_DESC, PGOGL_SUB_DESC, PGOG	àL, ~			Color RID 1	
Common components	^			Color RID 10000	
Cabin Interior Mirrors illustrations (mp.)				Color RID 11000	
Cabin Interior Mirrors Photo (imp.)				Color RID 11500	_
Cabin Interior Mirrors Photo (metr.)				Color RID 15000	_
Cabin View to outside Photo Buildings (metr.)				Color RID 20000	-
Cabin View to outside Photo illustrations (mp	) r.)			Color RID 25000	
Cabin View to outside Photo Landscapes (im     Cabin View to outside Photo Landscapes (im	p.) etr			Color RID 25001	
Cabin View to outside Photo Malls (imp.)				Color RID 30000	-
Cabin View to outside Photo Malls (metr.)				Color RID 30001	-
Floor Texture				Color RID 35000	-
terrent Glass Highlight	~			Color RID 40000	-
<	>				•



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**EL1.4 ADDITIONAL CHILD OBJECTS** 

... are inserted at the base point of the selected [Shaft\*.] parent object.

It is recommended to work in the Design Mode, when inserting an additional child object related to the shaft.<sup>1</sup>

point







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EL1.4 ADDITIONAL CHILD OBJECTS

#### Define size and position via the profile properties

• Size: uses fix values



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EL1.4 ADDITIONAL CHILD OBJECTS

# Define size and position via the profile properties

 Position: uses fix values, 3D
 Parameter or an equation of both



Eig	jenschaft	en			д	>
Loc	k Update	Corner profile 1 [ Cor	mer profile 1.]			
	Product	Option List Source	This Compo	onent		1
	This Obj	ect belongs to Pro	duct 0			
~	[0026] L	ocation				
	Position	and angle calculati	on Manually b	y Equations		
	X0 [mm]	= -100	-100			
	Y0 [mm]	= -100	-100			
	Z0 [mm]	= 1200	PIT			
~	[0520] :	D Parameter				
	[0]: CW	<b>T</b>	1600			
	[1]: CD		1400			
	[2]: CH		2000			
	[3]: CEILI	NG	0			
	[4]: DZ_S	PACE	200			
	[5]: ISO_[	DZ	30			
	[6]: FLOC	DR_PLATE_DZ	0			
	[7]: UC_D	Z	50			
	[10]: DX		2215			
	[11]: DY		1960			
a.	[12]: DZ		18000			
	[13]: PIT		1200			
	[14]: TKA	VEL	12700			
	[15]: OVE	ERHEAD	4100			
	[20]: X0		0			
	(041- VO		0			



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EL1.4 ADDITIONAL CHILD OBJECTS

#### Copy and rename

• Existing child objects





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EL1.4 ADDITIONAL CHILD OBJECTS

#### Define the position for each profile

- via the related location properties
  - using 3D Parameter



Bre	adcrumb			<b>ф X</b>
Do	ocument. Shaft0. Corner profile	e 2. 🔻		
►	Favorites			
	Options			
Pro	operties			<b>4 X</b>
Loc	k Update Corner profile 2 [ Corner p	profile 2.1		
	This Object belongs to Product	Opt 0	For exar	mple 📗
~	100261 Location	opro		_
	Position and angle calculation	Manually b	v Equations	
	X0  [mm] = 2315	100 + DX	) Equations	
	Y0 [mm] = 2060	100 + DY		
	Z0 [mm] = 1200	PIT		
~	[0520] 3D Parameter			
	[0]: CW	1600		
	[1]: CD	1400		
	[2]: CH	2000		
	[3]: CEILING	0		
	[4]: DZ_SPACE	200		
	[5]: ISO_DZ	30	chaft c	
	[6]: FLOOR_PLATE_DZ	0	Sharts	5120
	[7]: UC D7	50		_
	[10]: DX	2215	1	
	[11]: DY	1960		
	[12]: DZ	18000		
	[13]: PIT	1200		
	[14]: TRAVEL	12700		



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# EL1.5

Additional Child Objects Group

Practical example: Steel Shaft





#### Expected Result EL1.5 ADDITIONAL CHILD OBJECTS GROUP

Ring construction



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### Empty Parent User Component – General Information

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EL1.5 ADDITIONAL CHILD OBJECTS GROUP

Add an empty main user component with included base point to create simple assemblies by inserting additional child objects like variable profiles.

 Additional child objects groups can be positioned with all contained elements in any position in the elevator project.



## **Empty Parent User Component**

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EL1.5 ADDITIONAL CHILD OBJECTS GROUP

#### Add and define an empty user component

- New user component
  - Used as Zero Point



STEP 1: Select a Model	🔡 DigiPara Liftdesigner - Select Product
Target location in Data Tree:	Tree View 1 sau   📳 🔀   🏋 🚳
Shatt0.	USERCG_DESC, USERCG_SUB_DESC, MF_DISPLAY_DESC, ~
O DigiPara Cloud Server	
O A 3D CAD File on my Computer	to set as Main User Component
O A User Component from the DigiPara BIM Library	Used as Zero Point
Select User Component	

## **Empty Parent User Component**

EL1.5 ADDITIONAL CHILD OBJECTS GROUP

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#### Add and define an empty user component

Component group



STEP 2: Which component group will

Target location in Data Tree: Shaft0.



### **Empty Parent User Component**

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EL1.5 ADDITIONAL CHILD OBJECTS GROUP

#### Add and define an empty user component

Rename


### Subordinated User Components

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EL1.5 ADDITIONAL CHILD OBJECTS GROUP

#### Add and rename a subordinated user component into the prepared child object group



### Subordinated User Components

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EL1.5 ADDITIONAL CHILD OBJECTS GROUP

### Define the angle, size, position and color

• of the new profile

Pro	operties		д
Loc	k Update Ring beam 1 [Ring beam 1.]	]	
>	[0018] Additional Child Object	Settings	
<b> </b> ~	[0020] General		
	Manufacturer	Common	components
	Designation	I-Type	
F	Туре	Upright	
	Angle	90	
Y	1002111-1ype		
	DXL [mm]	1960	
	DXR [mm]	0	
	DY [mm]	200	
	DZ [mm]	200	
~	[0022] Project Level Geometry	Information	
	Create geometry	By parent	
	Create geometry status	Create	
×	[0024] Product Options		
	Product Option List Source	This Comp	onent
	This Object belongs to Product C	pt 0	
Y	[0026] Location		
	Position and angle calculation	Manually	
	X0 [mm]	-100	
	Y0 [mm]	0	
	Z0 [mm]	0	
~	[3635] View Frame Settings		





	Representation	Default (by Frame)
	Dash	No
	Extended Dimension	No
~	[3805] Render	
	All available Surfaces	30000
	Texture Angle	<del>0</del>
	Texture Scale	1000
	Texture Alianment	Global

### Subordinated User Components

EL1.5 ADDITIONAL CHILD OBJECTS GROUP

## Use the copy function to assign further user components to the child object group

- and adapt them accordingly
- via the respective properties window by using 3D Parameter and fix values







### Align the Child Object Group

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EL1.5 ADDITIONAL CHILD OBJECTS GROUP

## Align the complete finished child object group according

- the Z-direction
  - using equations





~	[0026] Location		
	Position and angle calculation	Manually by Equations	
	X0 [mm] = 0	0	
I.	YO (mm) – O	Ū	
	Z0 [mm] = 3800	PIT + 2600	
1	[0520] 3D Parameter		
	[0]: CW	1600	

### **Completed Child Object Groups**

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EL1.5 ADDITIONAL CHILD OBJECTS GROUP

## Copy, rename and position complete child object groups

 The copied subordinate object groups are completely independent of each other.

onal Objects dditional Child Object	s(10)
0:Standard (10)	
Corner profile 1	
Corner profile 2	
Corner profile 3	
Corner profile 4	1
Ring construction 1	
Ring construction 2	
Ring construction 3	
Ring construction 4	
Ring construction 5	
Ring construction 6	



### **Completed Child Object Groups**

**EL1.5 ADDITIONAL CHILD OBJECTS GROUP** 

#### Related extended component dimensions

- are automatically generated for every additional object
  - and can be made permanently visible on the drawing.



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# EL1.6

Slanted Roof





### Shaft Wizard

**EL1.6 SLANTED ROOF** 

**Practical Example** 

- 5 floors
- Typical floor to floor distance 3000 mm
  - Consider travel no
  - Create building floor levels no
- Traction elevator 2:1
- 13 persons / 1000 kg, 1 m/s
- Machine room-less
  - top
- Car roping
  - 2 pulleys below
  - without CW safety gear
- Counterweight roping
  - 1 pulley top
  - Counterweight right
- Sheet templates
  - LD Installation Drawing
  - LD Typical Views For Your Elevator

### Further specifications

- Car size
  - Car width: 1600 mm
  - Car depth: 1400 mm
- Save the project under the following file name: LDTrainingSlantedRoof.ld3

## Activate The Roof Component

### Activate The Roof Component

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**EL1.6 SLANTED ROOF** 

Activate the Roof component via the Main Project Data menu for each shaft wall face.



🖁 DigiPara Liftdesigner 2024 - Main Project	Data – 🗆 >	×
ojects	Properties	
✓ E0	Lock Update Roof [Roof.]	
Project Data	✓ [0241] Options	
✓ Shaft	Keep the original ceiling Yes	
Shaft Specifications	Thickness 150	
Shaft Front Door	Alternative material Wood	
✓ Traveling Cable 1	Wall Extension Material ( 1 ) NONE	
Traveling Cable 2	[4010] Roof Face Front	
Headroom Unit	Mode (1) Off	
	Wall Extension Material (1) NONE	
KOOT	✓ [4020] Roof Face Rear	
	Mode (1) Off	
	Wall Extension Material (1) NONE	
Machine Room	✓ [4030] Roof Face Left	
Pit Forces	Mode (1) Off	
Headroom Forces	Wall Extension Material ( 1 ) NONE	
	✓ [4040] Roof Face Right	
	Mode (1) Off	
	Wall Extension Material NONE	
	✓ [4050] Roof Face Top	
	Mode Off	
	> [4210] Product Administration	
	3D-View	×
Window	Close Help	] .

### Activate The Roof Component

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EL1.6 SLANTED ROOF

## Activate the Roof component via the data tree for each wall face.







## Create Different Typical Slanted Roofs: Preparation Steps indigipara liftdesigner

#### Top Wall Thickness: W\_O Dimension

 This value should be set to "0" since it can be configured independently for each wall, in accordance with the roof's properties.





## Create Different Typical Slanted Roofs: Preparation Steps **If digipara**<sup>®</sup> liftdesigner</sup>

#### Shaft Walls Material

 Material configurations are defined via the Group and Shaft Configurator for the entire elevator project.





## Create Different Typical Slanted Roofs: Preparation Steps iiftdesigner

#### Shaft Walls Material

- Selection and Material Options:
  - Click the respective button for all options
  - Choose **Brick** from the predefined list



#### Create Different Typical Slanted Roofs EL1.6 SLANTED ROOF

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#### 1. Slanted Roof Face Left

 Activate the "Roof Face Left" mode to "On" and enter the required values.





Oocument. Shaft0. Roof. Favorites Options operties ck Update Roof [Roof.]	Ф Ф Х		
Favorites       Options       operties       ick Update     Roof [Roof.]	<del>.</del> 7 ×		
Options operties ck Update Roof [Roof.]	<del>.</del> 4 х		
operties Ick Update Roof [Roof.]	<del></del>		
ck Update Roof [Roof.]			
[0241] Options			
Keep the original ceiling No	0		
Thickness (1) 15	0		
Alternative material ( 1 )	Wood		
Wall Extension Material ( 1 )	NONE		
[4010] Roof Face Front			
Mode (1) Of	f		
Wall Extension Material (1)	NONE		
[4020] Roof Face Rear			
Mode (1) Of	f		
Wall Extension Material (1)	NONE		
[4030] Roof Face Left			
Mode (1) Or	1		
Angle 30			
Set Thickness manually No	<b>b</b>		
Thickness 15	0		
Offset 20	0		
Alternative material	NONE		
Wall Extension Material ( 1 )	NONE		
[4040] Roof Face Right			
Mode (1) Of	f		
Wall Extension Material	NONE		

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EL1.6 SLANTED ROOF

#### 2. Slanted Roof Face Right

 Activate the "Roof Face Right" mode to "On" and enter the required values.







#### Create Different Typical Slanted Roofs EL1.6 SLANTED ROOF

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### 3. Slanted Roof Face Left & Right

 Activate the "Roof Face Left & Right" mode to "On" and enter the required values.





Pro	operties	<b>д X</b>			
Loc	k Update Roof [Roof.]				
~	[0241] Options				
	Keep the original ceiling	No			
	Thickness ( 1 )	150			
	Alternative material (1)	Wood			
	Wall Extension Material (1)	NONE NONE			
~	[4010] Roof Face Front				
	Mode (1)	Off			
	Wall Extension Material (1)	NONE			
~	[4020] Roof Face Rear				
	Mode (1)	Off			
	Wall Extension Material (1)	NONE			
~	[4030] Roof Face Left				
	Mode ( 1 )	On 🗸			
	Angle ( 1 )	45			
	Set Thickness manually (1)	No			
	Thickness ( 1 )	150			
	Offset (1)	300			
	Alternative material (1)	NONE			
	Wall Extension Material (1)	NONE			
~	[4040] Roof Face Right				
	Mode ( 1 )	On			
	Angle	45			
	Set Thickness manually	No			
	Thickness	150			
	Offset	300			
	Alternative material	NONE			
	Wall Extension Material	NONE			
~	[4050] Roof Face Top				
	Mode	Off			

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EL1.6 SLANTED ROOF

### 4. Slanted Roof Face Front

 Activate the "Roof Face Front" mode to "On" and enter the required values.







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EL1.6 SLANTED ROOF

#### 5. Slanted Roof Face Rear

 Activate the "Roof Face Rear" mode to "On" and enter the required values.







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EL1.6 SLANTED ROOF

#### 6. Slanted Roof Face Front & Rear

 Activate the "Roof Face Front & Rear" mode to "On" and enter the required values.





Pro	operties	<b>中</b>	х		
Loc	k Update Roof [Roof.]				
~	[0241] Options				
	Keep the original ceiling	No			
	Thickness (1)	150			
	Alternative material (1)	Wood			
	Wall Extension Material (1)				
~	[4010] Roof Face Front				
	Mode (1)	On	$\sim$		
	Angle ( 1 )	45			
	Set Thickness manually (1)	No			
	Thickness (1)	150			
	Offset (1)	300			
	Alternative material (1)	NONE			
	Wall Extension Material (1)	NONE			
~	[4020] Roof Face Rear				
	Mode (1)	On			
	Angle	45			
	Set Thickness manually	No			
	Thickness	150			
	Offset	300			
	Alternative material	NONE			
	Wall Extension Material (1)	NONE			
~	[4030] Roof Face Left				
	Mode ( 1 )	Off			
	Wall Extension Material (1)	NONE			

EL1.6 SLANTED ROOF

### Insert a new child object by

- selecting the shaft as parent component
  - clicking on the Add new button under the Additional Child Objects entry







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EL1.6 SLANTED ROOF

### Choose the profile type via the navigator dialog

- Variable Profiles
  - I-Type, Upright





STEP 1: Select a Model

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EL1.6 SLANTED ROOF

### Assign the component group this profile shall be part of

• The component group can be assigned also via the Properties of the new profile



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### Rename the new Additional Objects



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EL1.6 SLANTED ROOF

### Define size and position via the profile properties

- Size: uses fix values
- Position: uses 3D Parameter



Bre	adcrumb	<b></b>	×	
Do	ocument. Shaft0. Upper Bear	n. 🔻	1	
Pro	operties	₽	x	
Loc	k Update Upper Beam [ Upper Be	am.]		
~	[0020] General		^	
	Manufacturer	Common components		
	Designation	I-Type		
	Туре	Upright		
	Angle	0		
~	[0021] I-Type			
	DXL [mm]	2415		
	DXR [mm]	200		
	DY [mm]	200		
	DZ [mm]	100		V DXL
>	[0022] Project Level Geome	try Information		Sha
>	[0024] Product Options		17	JIId
~	[0026] Location			-
	Position and angle calculation	Manually by Equations	5	DXR
	X0 [mm] = 2215	DX		
	Y0 [mm] = 902.5	0.5*DY		
	Z0 [mm] = 17400	DZ		
~	[0520] 3D Parameter			
	[0]: CW	1600		
	[1]: CD	1400		
	[2]: CH	2000		
	[3]: CEILING	0		
	[4]: DZ_SPACE	200		
	[5]: ISO_DZ	30		
	[6]: FLOOR_PLATE_DZ	0		
	[7]: UC_DZ	50		
	[10]: DX	2215		
	[11]: DY	1805		
	[12]: DZ	17400		

DXL = Shaft width + Shaft left wall width

DXR = Shaft right wall width

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### Result





#### **Create Untypical Slanted Roof**

 Activate the "Roof Face Left, Right & Top" mode to "On" and enter the required values.





Breadcrumb	<b>д X</b>
Document. Shaft0. Roof. 🔻	<u></u>
Properties	<u>а х</u>
Lock UpdateRoof [Boof]	1 1
Lock opdate Roor (Roor.)	
<ul> <li>[0241] Options</li> <li>Keep the original colling</li> </ul>	No
Thicknoss (1)	200
Alternative material (1)	Wood
Wall Extension Material ( 1 )	
> [4010] Roof Face Front	
> [4020] Roof Face Rear	
[4030] Roof Face Left	
Mode (1)	On 🗸 🗸
Angle ( 1 )	45
Set Thickness manually ( 1 )	Yes
Thickness ( 1 )	150
Offset (1)	400
Alternative material (1)	NONE
Wall Extension Material (1)	
<ul> <li>[4040] Roof Face Right</li> </ul>	
Mode ( 1 )	On
Angle ( 1 )	45
Set Thickness manually	Yes
Thickness ( 1 )	150
Offset (1)	400
Alternative material	
Wall Extension Material	
<ul> <li>[4050] Root Face Top</li> </ul>	0.
Mode	On
Angle ( T )	Voc
Thickness manually	250
Offset	1200
Alternative material	L NONE
<ul> <li>[4210] Product Administra</li> </ul>	ation

#### Create Untypical Slanted Roof

Breadcrumb

Favorites

Options

Properties

Lock Update

[0495] General

Value [mm]

Document, Shaft0, W\_O

W O = 200

- Navigate and modify options for "Keep the original ceiling": "Yes"
  - This will ensure that the existing ceiling is retained.

Top wall thickness

should be set to

"W O > 0"

200

**4 Х** 

**д X** 



#### Create Untypical Slanted Roof EL1.6 SLANTED ROOF

Create Untypical Slanted Roof

- Thickness Changes in Bathes
  - Batch change wall thicknesses uniformly via the "[0241] Options" menu by setting "Set Thickness manually" to "No" for each Roof Face.





#### Properties **д X** Lock Update Roof [Roof.] [0241] Options Keep the original ceiling Yes Thickness (1) 180 Alternative material (1) Wood Wall Extension Material (1) NONE [4010] Roof Face Front [4020] Roof Face Rear [4030] Roof Face Left On Mode (1) Angle (1) 45 Set Thickness manually (1) No Thickness (1) Offset (1) 400 NONE Alternative material (1) Wall Extension Material (1) NONE [4040] Roof Face Right On Mode (1) Angle (1) 45 No Set Thickness manually (1 Thickness (1) Offset (1) 400 Alternative material (1) NONE Wall Extension Material NONE Mode On Angle 0 No Set Thickness manually Thickness Offset 1200 NONE Alternative material



#### Create Untypical Slanted Roof EL1.6 SLANTED ROOF

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#### Create Untypical Slanted Roof

- Harnessing the option for negative direction on slanted roof faces.
  - Modify options for "Keep the original ceiling": "Yes as top roof face"



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### Summary & custom Q&A's



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## Congratulations You reached the next level



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Your instructor will be available for individual questions after the module training.

training@digipara.com



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