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Customer Street Postal code/city Tel. E-Mail		Building object Referenz 6.1 Street Postal code/city Country Deutschland	
Planner Official in charge Street Postal code/city Tel. Fax E-mail Internet		Heating specialist Multiplaner 6.1 Contact person Street Postal code/city Tel. Fax E-mail Internet	
System		MB Screed System 17, MB Screed Flat System 17, MB Wall System 17	
Panel Heating data		Silent cooling	
Heat load	7855 W	Cooling output	8457 W
Flow temperature	36 °C	Flow temperature	23 °C
max. pressure loss	19354 Pa	Air temperature max.	32 °C
Water total	2133 l/h	Relative humidity	55 %
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Art. no.	Quantity	Designation
1a. MULTIBETON underfloor heating/cooling		
01106	499 m	MB Euro system pipe 17, MB Screed System 17 (98 m ²)
01106	459 m	MB Euro system pipe 17, MB Screed Flat System 17 (73 m ²)
01130	88 m	MB steel cliprail 17, MB Screed System 17 (98 m ²)
01130	66 m	MB steel cliprail 17, MB Screed Flat System 17 (73 m ²)
01150	74 l	MB PVP, MB Screed Flat System 17
1b. MULTIBETON wall heating/cooling		
01106	93 m	MB Euro system pipe 17, MB Wall System 17 (19 m ²)
01130	19 m	MB steel cliprail 17, MB Wall System 17 (19 m ²)
2. Heating circuit manifolds		
04310	2 PCE	Heating manifold 1", 10 circuits
04500-10	2 PCE	Insulation set for 10 circuits
04523	4 PCE	Ball valve 1"
04515	40 PCE	Inserting set, 3/4" IG x 17 mm
04692	2 PCE	Concealed cabinet, Size 3
3. Individual room regulation		
04672	14 PCE	Thermostat RTR 230 V
04678	20 PCE	Servo mechanism 230 V
04670	2 PCE	Strip terminal 230 V
4. Further articles		
01300	188 m ²	MB PE membrane,
01314	112 m ²	Moisture barrier,
01310	171 m	Edge insulation band,
01150	10 l	MB PVP, special screed emulsion
	146 kg	Steel fibres
5. Insulations		
	98 m ²	Insulation EPS 035 DEO 60 mm
	98 m ²	Insulation EPS 045 DES sm 30-3
	73 m ²	Insulation EPS 045 DES sm 35-3

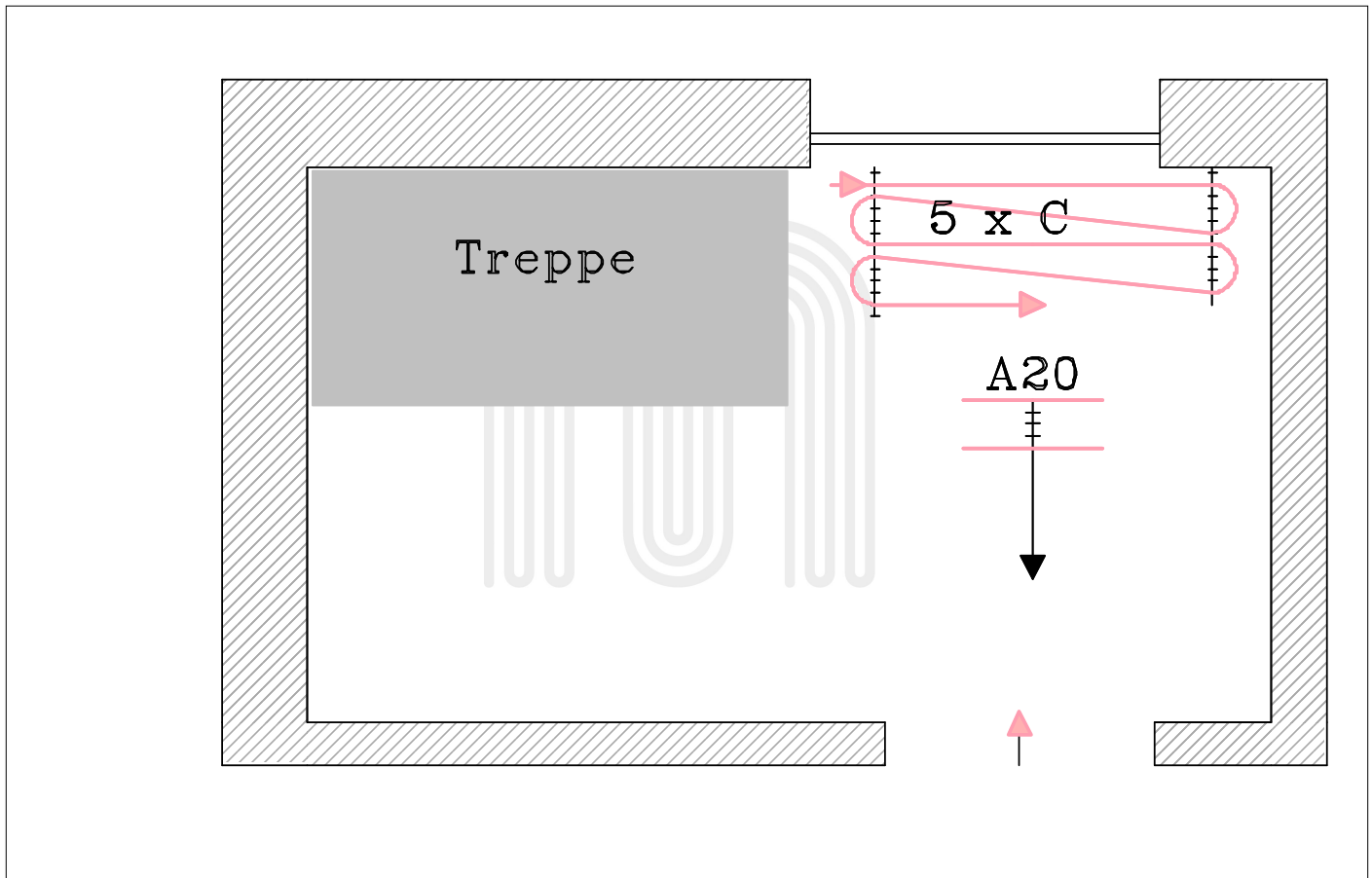
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Manifold group 1 Tv 36 Pressure loss 10332 Pa Mass stream 870 l/h	Manifold room ankl./gard. To avoid residues please devide the MB pipe in an efficient and fitting way.

room no.	room	storey	register	Valve settings					pipe m	int. zone m ²	fringe zone m ²	wall zone m ²
				FL	WZ1	WZ2	WZ3	WZ4				
001	wifa	GF	1	2,9					53	6,49 A20	1,15 C	
003	WC	GF	1	1,3					22	2,50 A30	0,47 B	
004	abst	GF	1	1,3					28	4,12 A30	0,78 B	
005	bad	GF	2	3,4	1,5				42	2,76 C	0,55 C	1,79 A35
007	flex-raum	GF	1	2,9					90	10,06 A20	4,45 C	
008	wohnen / essen	GF	3	3,8					200	31,57 A25	9,51 B	
009	küche	GF	1	2,9					75	11,91 A30	2,42 C	
			10						509	69,42	19,32	1,79

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Manifold group 2 Tv 36 Pressure loss 19354 Pa Mass stream 1263 l/h	Manifold room flur 2 To avoid residues please devide the MB pipe in an efficient and fitting way.

room no.	room	storey	register	Valve settings					pipe m	int. zone m²	fringe zone m²	wall zone m²
				FL	WZ1	WZ2	WZ3	WZ4				
010	flur 1	Top	1	2,4					48	6,20 A25	1,97 B	
011	elternbad	Top	2	2,3					113	9,88 C	2,53 C	
012	ankleide	Top	1	1,3					29	4,39 A30	0,76 B	
013	eltern	Top	2		2,4	2,0			83			17,19 A30
015	kind 2	Top	1	3,0					88	12,35 A25	5,47 B	
016	bad	Top	2	3,8					72	5,54 C	0,99 C	
017	kind 1	Top	1	3,4					110	14,96 A20	2,74 C	
			10						543	53,31	14,47	17,19

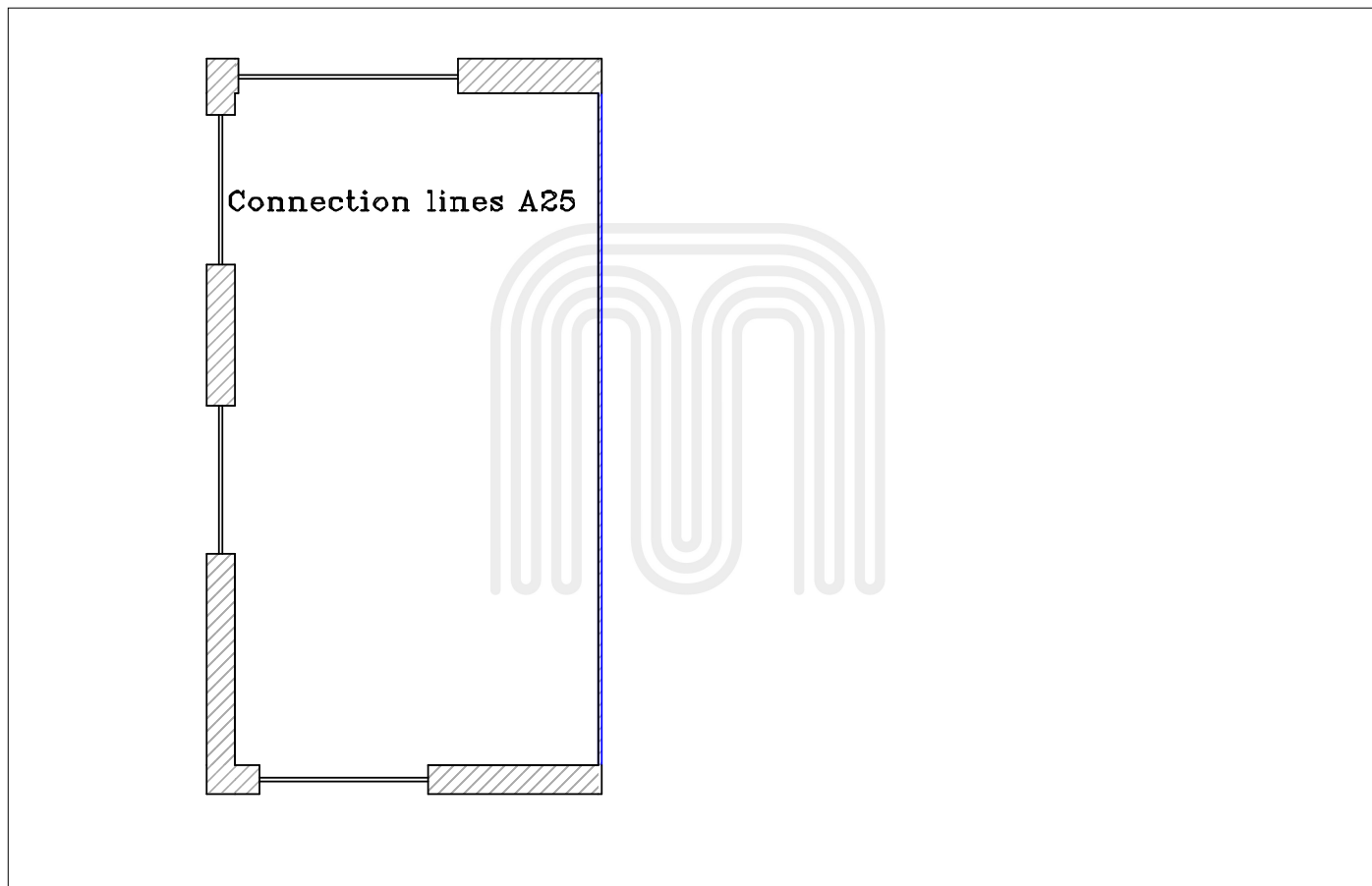
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System	MB Screed System 17	Heat load	609 W
Room	001-wifa	Residual heat	-
Storey	GF	Internal temperature	20 °C
External zone inst. type	C	Silent Cooling output	437 W
External zone surface	1,15 m ²	Flow temperature cooling	23 °C
Internal zone inst. type	A20	Cooling temperature	9,2 °C
Internal zone surface	6,49 m ²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	-
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	4202 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	7,64 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	2,00 m ²	Amount of water/circuit FL	1,75 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	53 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	2,9
Amount registers	1	Valve preset WZ1	-
Connection lines	11 m	Valve preset WZ 2	-
Registers FL each	42 m	Top floor	Natural stone
Register length WZ 1	-	Floor insulation 1	7,64 m ² EPS 045 DES sm 30-3
Register length WZ 2	-	Floor insulation 2	7,64 m ² EPS 035 DEO 60 mm

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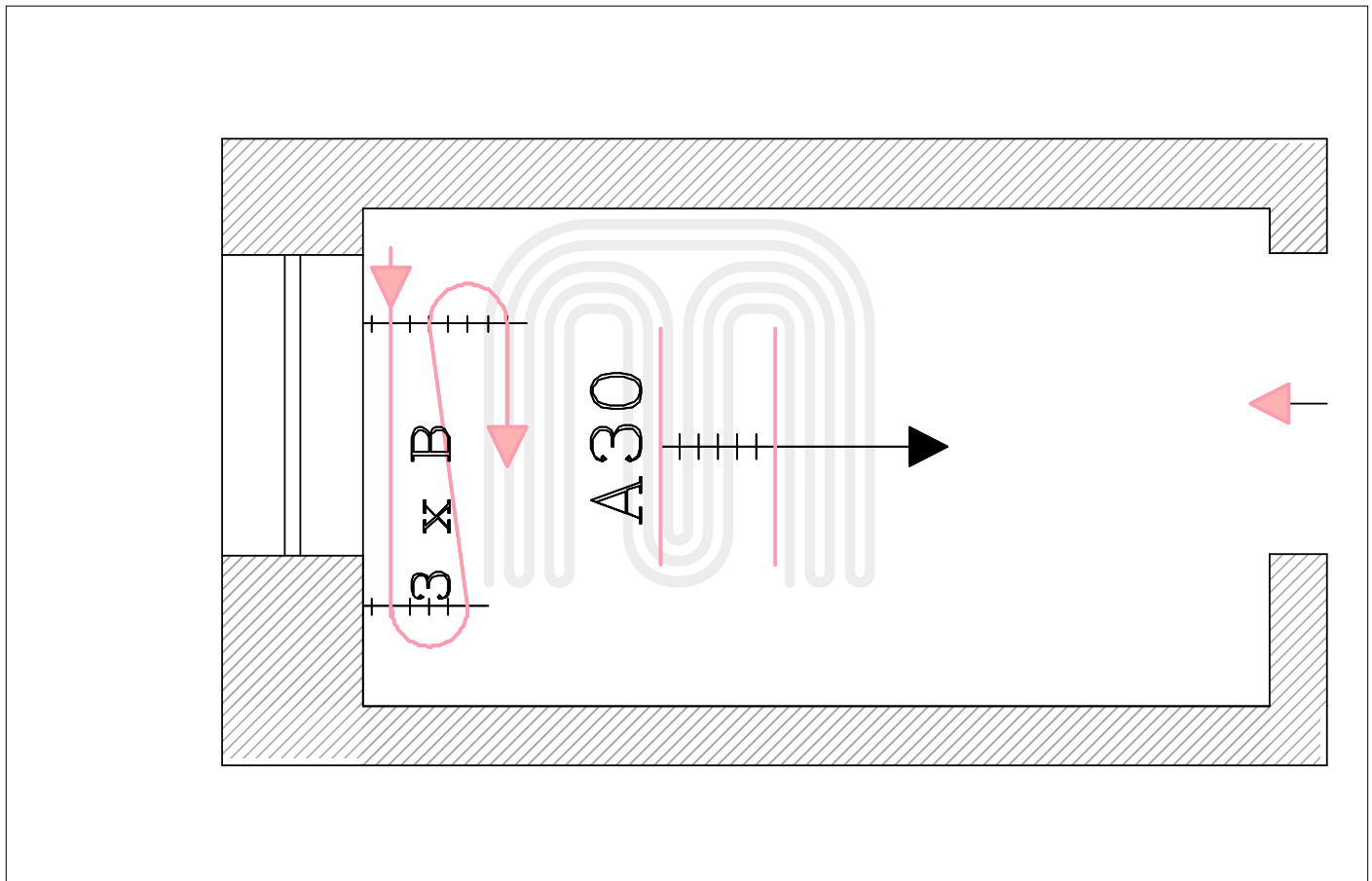
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System	MB Screed System 17	Heat load	128 W
Room	002-flur	Residual heat	-
Storey	GF	Internal temperature	20 °C
External zone inst. type	-	Silent Cooling output	-
External zone surface	-	Flow temperature cooling	23 °C
Internal zone inst. type	A25	Cooling temperature	-
Internal zone surface	-	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	1
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	4132 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	6,57 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	-
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	-	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	-
Amount registers	-	Valve preset WZ1	-
Connection lines	-	Valve preset WZ 2	-
Registers FL each	-	Top floor	Wood/parquet floor
Register length WZ 1	-	Floor insulation 1	6,57 m ² EPS 045 DES sm 30-3
Register length WZ 2	-	Floor insulation 2	6,57 m ² EPS 035 DEO 60 mm

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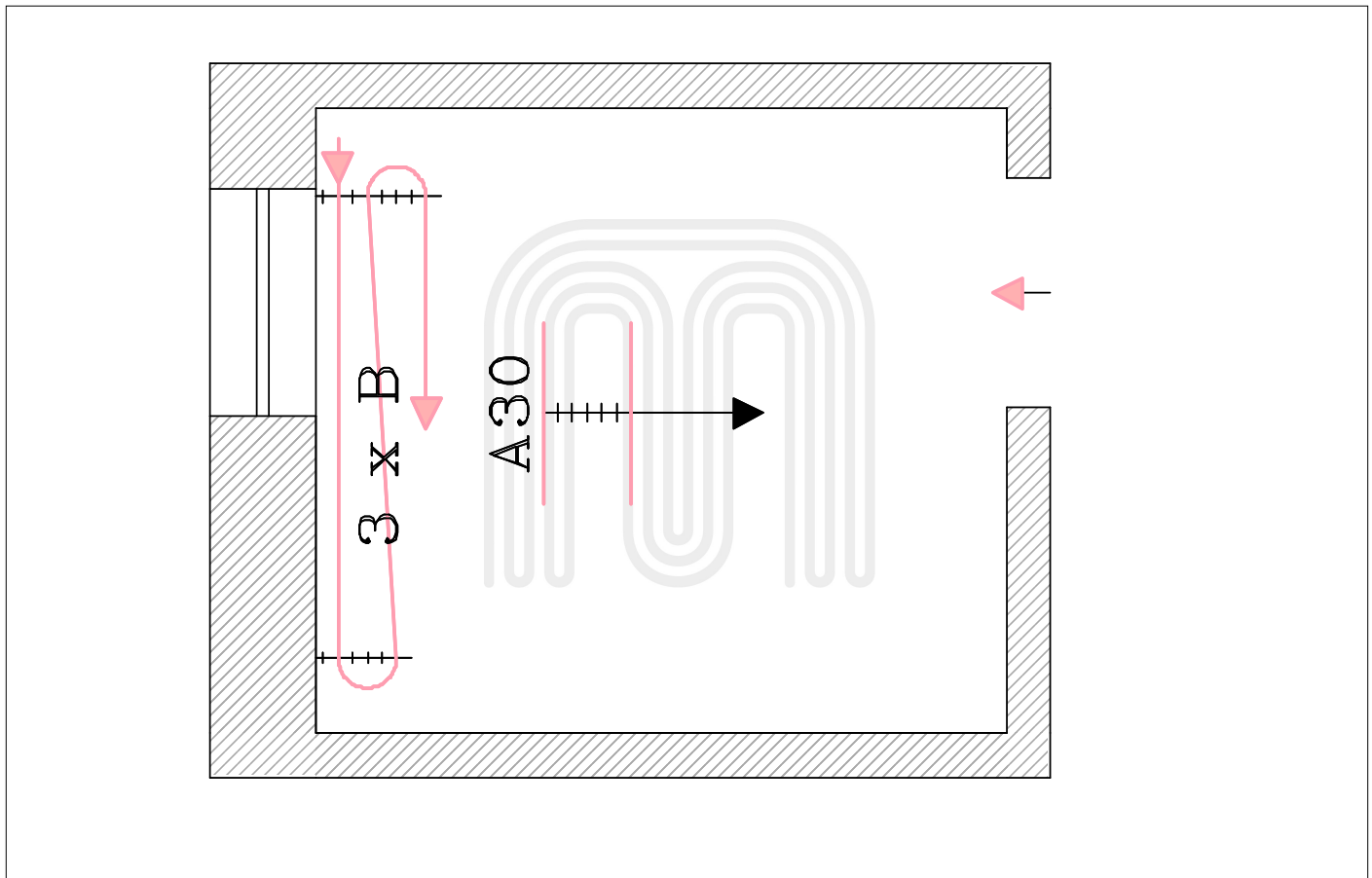
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System	MB Screed System 17	Heat load	113 W
Room	003-WC	Residual heat	-
Storey	GF	Internal temperature	20 °C
External zone inst. type	B	Silent Cooling output	135 W
External zone surface	0,47 m²	Flow temperature cooling	23 °C
Internal zone inst. type	A30	Cooling temperature	7,5 °C
Internal zone surface	2,50 m²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	1
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	296 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	2,97 m²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	0,45 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	22 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	1,3
Amount registers	1	Valve preset WZ1	-
Connection lines	11 m	Valve preset WZ 2	-
Registers FL each	11 m	Top floor	Tiles
Register length WZ 1	-	Floor insulation 1	2,97 m² EPS 045 DES sm 30-3
Register length WZ 2	-	Floor insulation 2	2,97 m² EPS 035 DEO 60 mm

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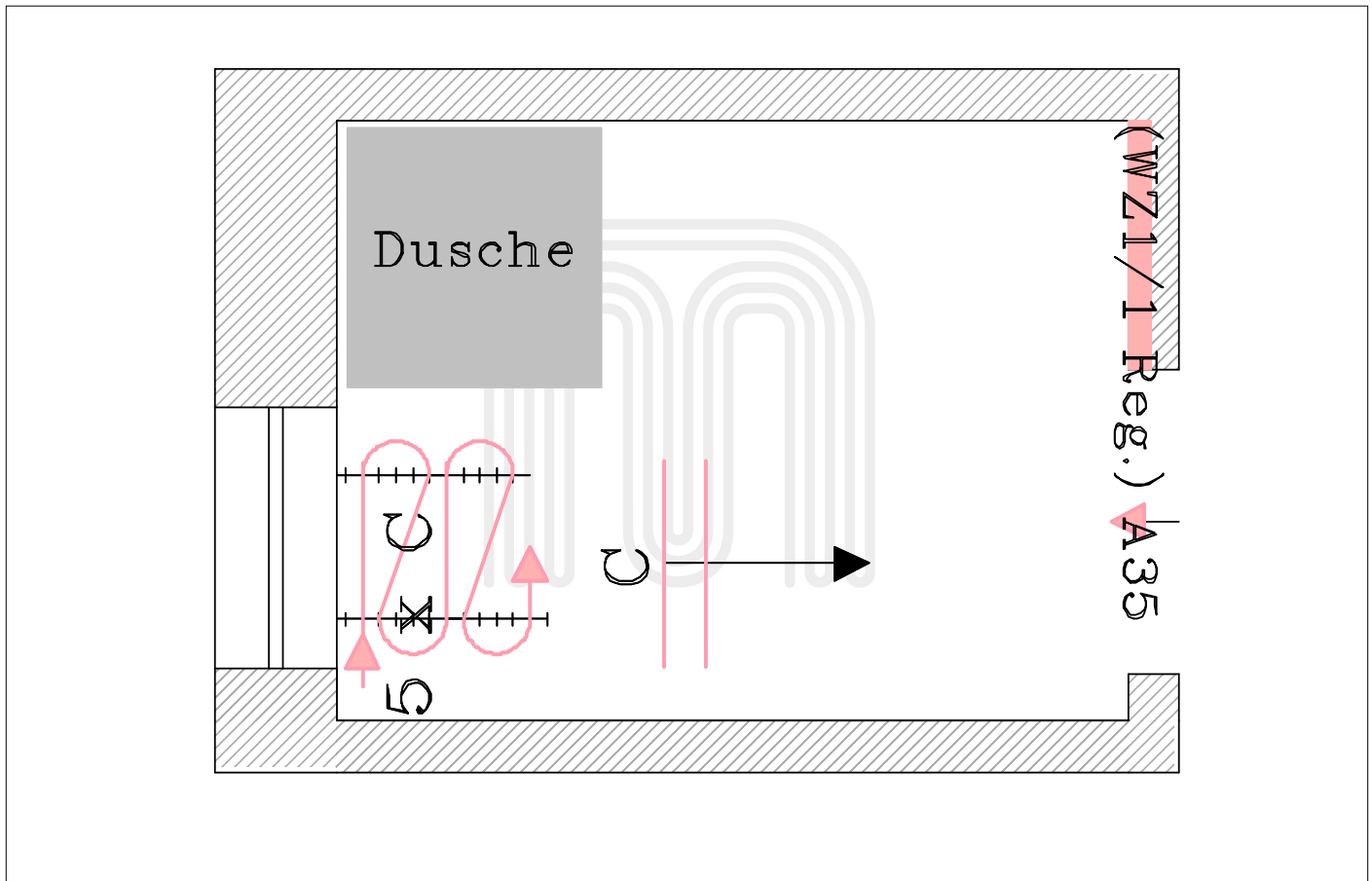
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System	MB Screed System 17	Heat load	116 W
Room	004-abst	Residual heat	-
Storey	GF	Internal temperature	20 °C
External zone inst. type	B	Silent Cooling output	222 W
External zone surface	0,78 m ²	Flow temperature cooling	23 °C
Internal zone inst. type	A30	Cooling temperature	7,5 °C
Internal zone surface	4,12 m ²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	1
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	488 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	4,90 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	0,45 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	28 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	1,3
Amount registers	1	Valve preset WZ1	-
Connection lines	9 m	Valve preset WZ 2	-
Registers FL each	19 m	Top floor	Tiles
Register length WZ 1	-	Floor insulation 1	4,90 m ² EPS 045 DES sm 30-3
Register length WZ 2	-	Floor insulation 2	4,90 m ² EPS 035 DEO 60 mm

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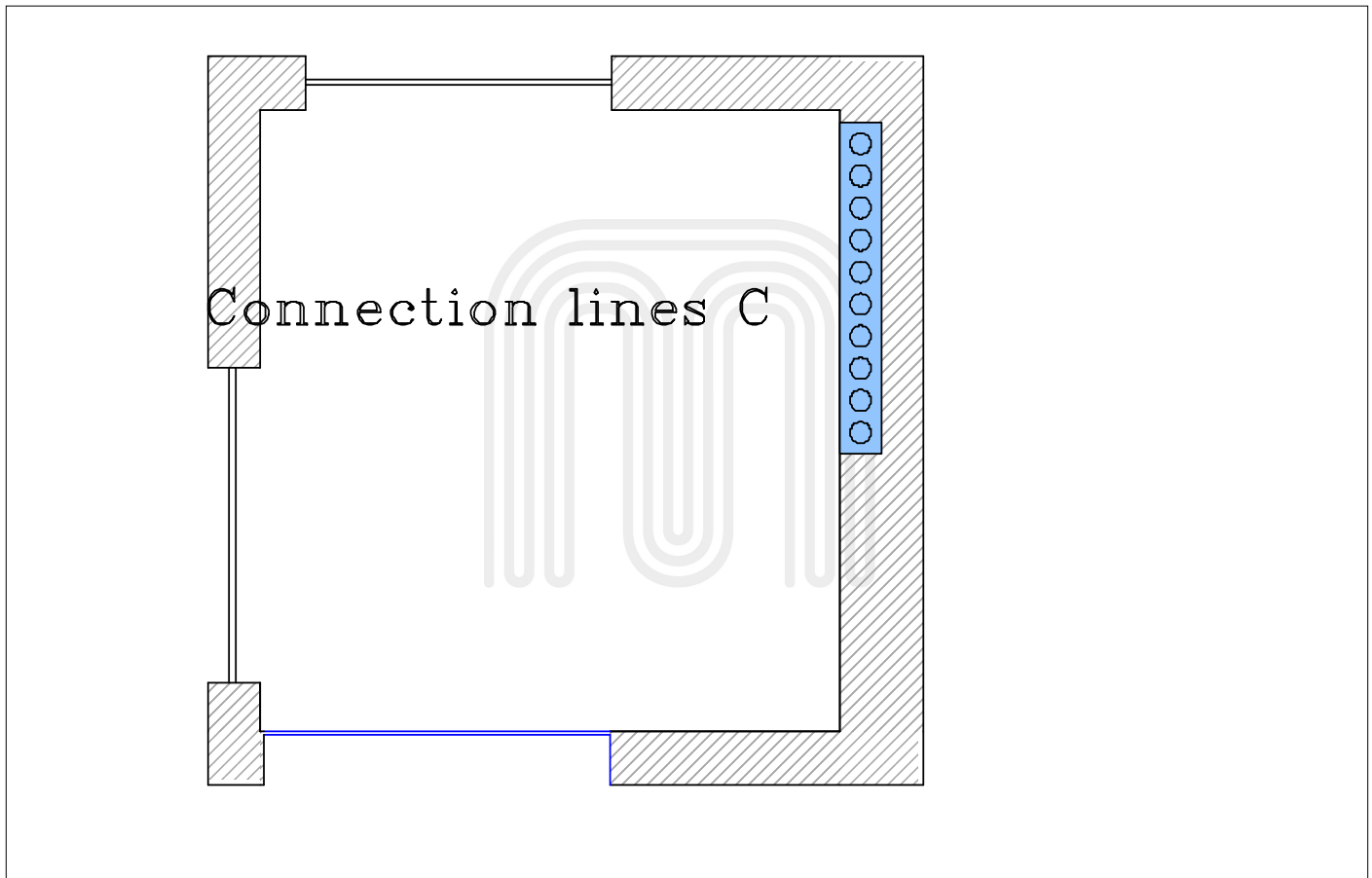
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System	MB Screed System 17 + Whz	Heat load	345 W
Room	005-bad	Residual heat	-
Storey	GF	Internal temperature	24 °C
External zone inst. type	C	Silent Cooling output	186 W
External zone surface	0,55 m²	Flow temperature cooling	23 °C
Internal zone inst. type	C	Cooling temperature	8,0 °C
Internal zone surface	2,76 m²	Air temperature max.	32 °C
Wall zone 1 inst. type	A35	Manifold group	-
Wall zone 1 surface	1,79 m²	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	4147 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	38 Pa
Heated surface FL	3,31 m²	Pressure loss/circuit WZ2	-
Unheated surface FL	0,80 m²	Amount of water/circuit FL	2,48 l/min
Heated surface WZ	1,79 m²	Amount of water/circuit WZ 1	0,13 l/min
Total pipe length FL	31 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	10 m	Valve preset reg. FL	3,4
Amount registers	2	Valve preset WZ1	1,5
Connection lines	10 m	Valve preset WZ 2	-
Registers FL each	26 m	Top floor	Tiles
Register length WZ 1	5 m	Floor insulation 1	3,31 m² EPS 045 DES sm 30-3
Register length WZ 2	-	Floor insulation 2	3,31 m² EPS 035 DEO 60 mm

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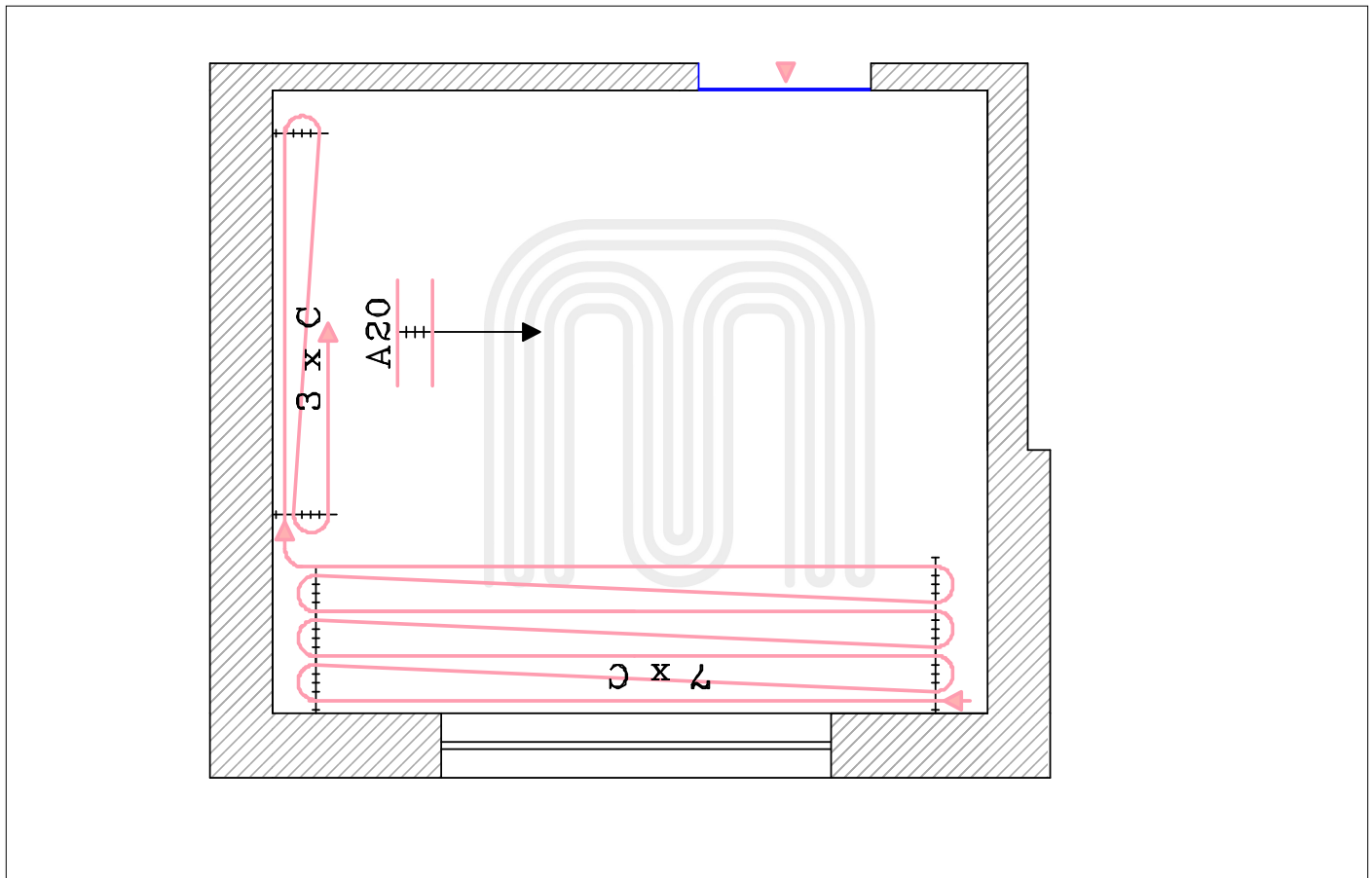
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System	MB Screed System 17	Heat load	21 W
Room	006-ankl./gard.	Residual heat	-
Storey	GF	Internal temperature	20 °C
External zone inst. type	-	Silent Cooling output	-
External zone surface	-	Flow temperature cooling	-
Internal zone inst. type	C	Cooling temperature	-
Internal zone surface	-	Air temperature max.	-
Wall zone 1 inst. type	-	Manifold group	-
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	38 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	2,91 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	-
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	-	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	-
Amount registers	-	Valve preset WZ1	-
Connection lines	-	Valve preset WZ 2	-
Registers FL each	-	Top floor	Carpet
Register length WZ 1	-	Floor insulation 1	2,91 m ² EPS 045 DES sm 30-3
Register length WZ 2	-	Floor insulation 2	2,91 m ² EPS 035 DEO 60 mm

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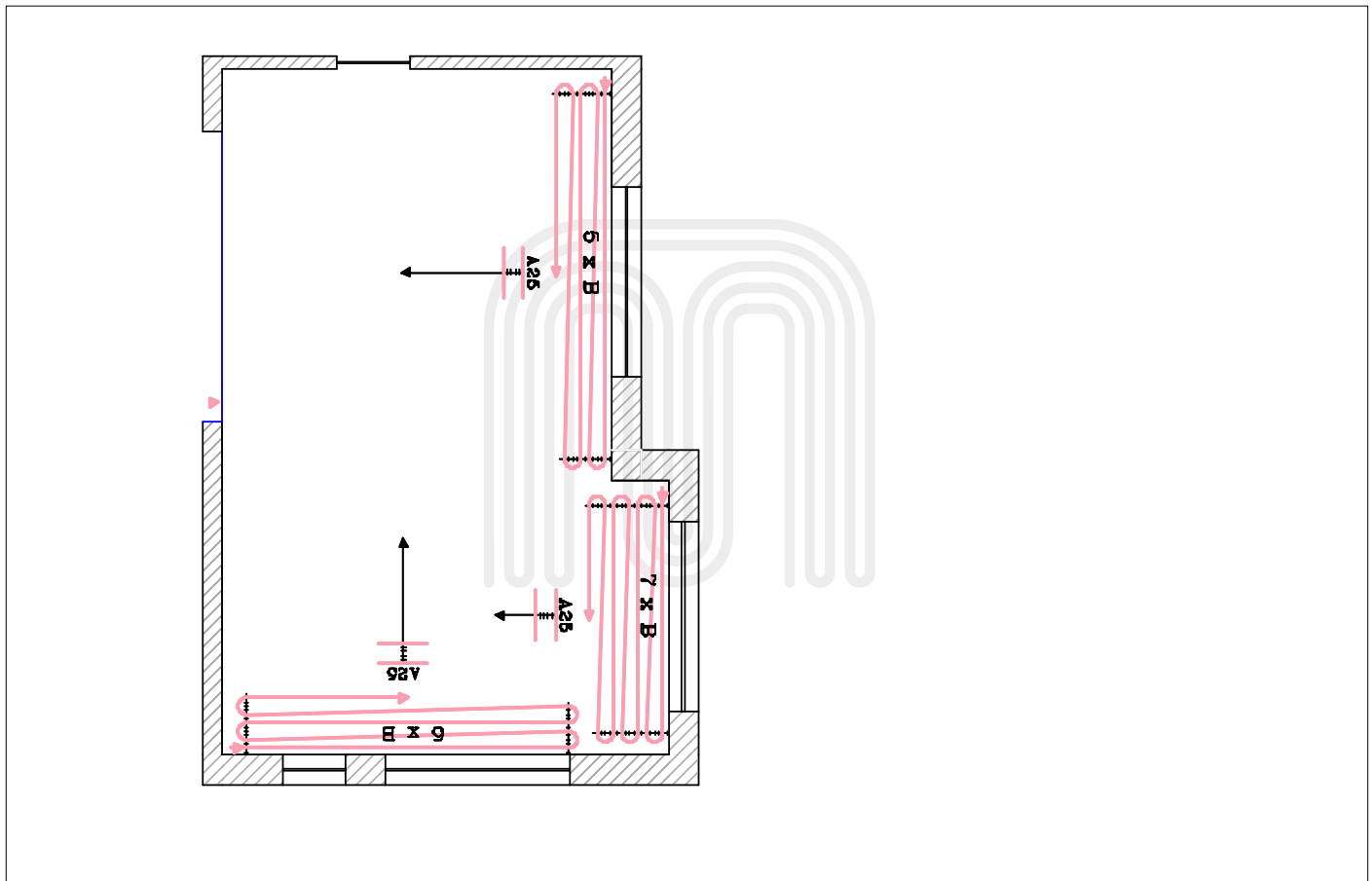
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System	MB Screed System 17	Heat load	726 W
Room	007-flex-raum	Residual heat	-
Storey	GF	Internal temperature	20 °C
External zone inst. type	C	Silent Cooling output	660 W
External zone surface	4,45 m²	Flow temperature cooling	23 °C
Internal zone inst. type	A20	Cooling temperature	6,2 °C
Internal zone surface	10,06 m²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	1
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	10332 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	14,51 m²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	2,09 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	90 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	2,9
Amount registers	1	Valve preset WZ1	-
Connection lines	4 m	Valve preset WZ 2	-
Registers FL each	86 m	Top floor	Carpet
Register length WZ 1	-	Floor insulation 1	14,51 m² EPS 045 DES sm 30-3
Register length WZ 2	-	Floor insulation 2	14,51 m² EPS 035 DEO 60 mm

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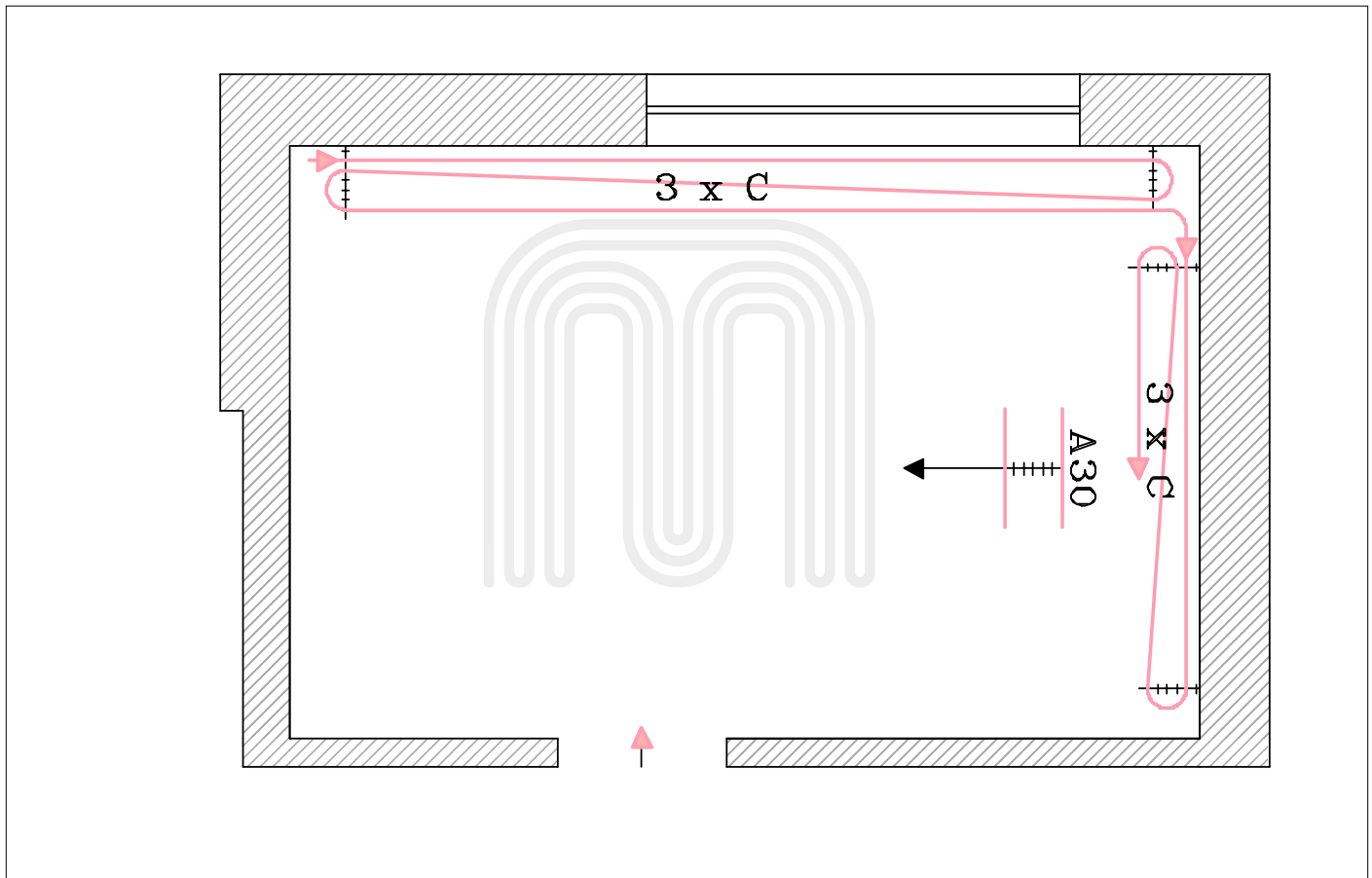
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System	MB Screed System 17	Heat load	1828 W
Room	008-wohnen / essen	Residual heat	-
Storey	GF	Internal temperature	20 °C
External zone inst. type	B	Silent Cooling output	1864 W
External zone surface	9,51 m ²	Flow temperature cooling	23 °C
Internal zone inst. type	A25	Cooling temperature	6,2 °C
Internal zone surface	31,57 m ²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	1
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	5426 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	41,08 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	1,75 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	200 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	3,8
Amount registers	3	Valve preset WZ1	-
Connection lines	12 m	Valve preset WZ 2	-
Registers FL each	63 m	Top floor	Wood/parquet floor
Register length WZ 1	-	Floor insulation 1	41,08 m ² EPS 045 DES sm 30-3
Register length WZ 2	-	Floor insulation 2	41,08 m ² EPS 035 DEO 60 mm

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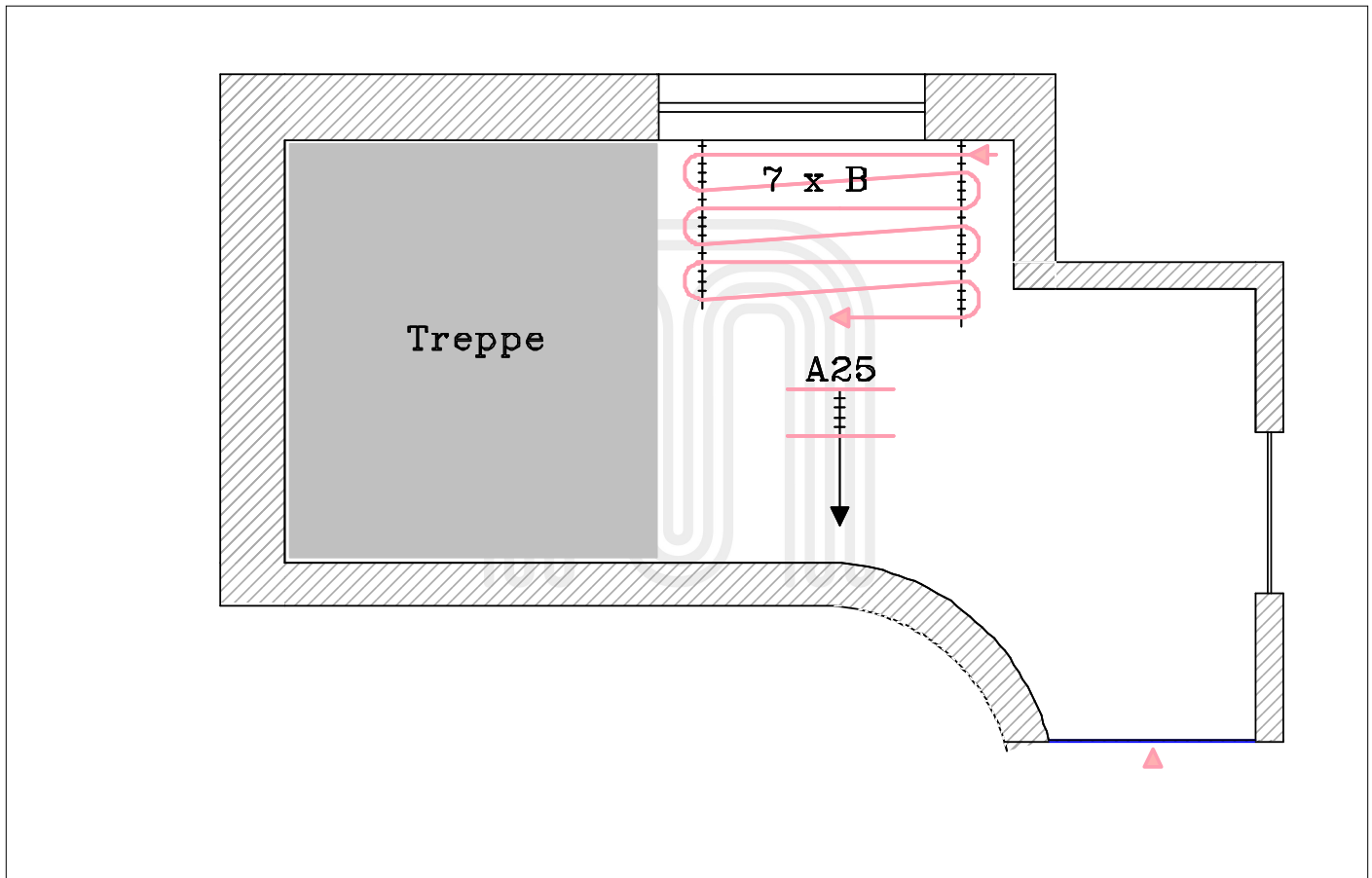
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System	MB Screed System 17	Heat load	663 W
Room	009-küche	Residual heat	-
Storey	GF	Internal temperature	20 °C
External zone inst. type	C	Silent Cooling output	650 W
External zone surface	2,42 m ²	Flow temperature cooling	23 °C
Internal zone inst. type	A30	Cooling temperature	7,9 °C
Internal zone surface	11,91 m ²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	1
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	6488 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	14,33 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	1,91 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	75 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	2,9
Amount registers	1	Valve preset WZ1	-
Connection lines	16 m	Valve preset WZ 2	-
Registers FL each	59 m	Top floor	Tiles
Register length WZ 1	-	Floor insulation 1	14,33 m ² EPS 045 DES sm 30-3
Register length WZ 2	-	Floor insulation 2	14,33 m ² EPS 035 DEO 60 mm

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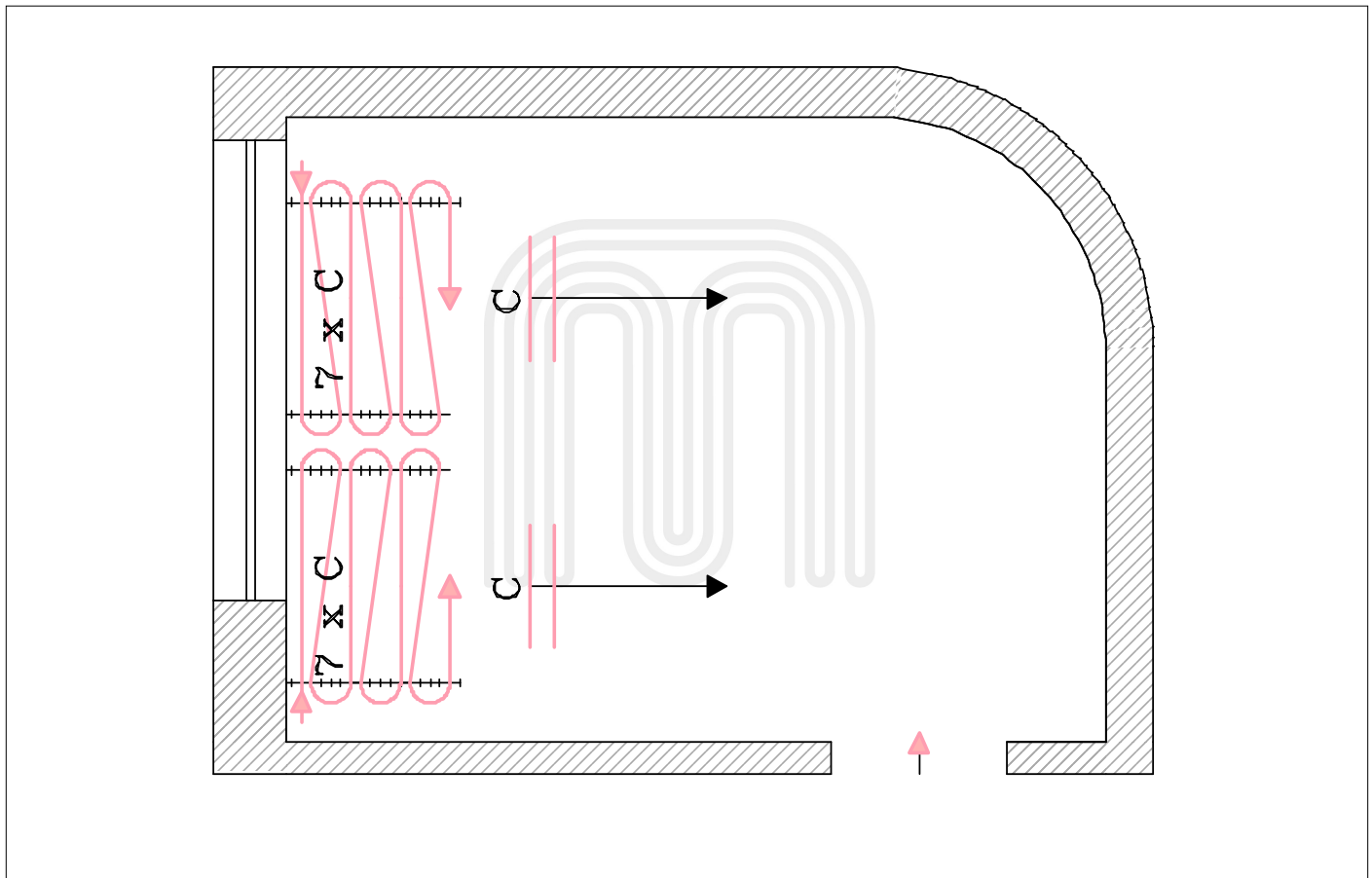
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System	MB Screed Flat System 17	Heat load	449 W
Room	010-flur 1	Residual heat	-
Storey	Top storey	Internal temperature	20 °C
External zone inst. type	B	Silent Cooling output	612 W
External zone surface	1,97 m²	Flow temperature cooling	23 °C
Internal zone inst. type	A25	Cooling temperature	8,7 °C
Internal zone surface	6,20 m²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	-
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	2798 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	8,17 m²	Pressure loss/circuit WZ2	-
Unheated surface FL	5,00 m²	Amount of water/circuit FL	1,29 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	48 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	2,4
Amount registers	1	Valve preset WZ1	-
Connection lines	10 m	Valve preset WZ 2	-
Registers FL each	38 m	Top floor	Natural stone
Register length WZ 1	-	Floor insulation 1	8,17 m² EPS 045 DES sm 35-3
Register length WZ 2	-	Floor insulation 2	-

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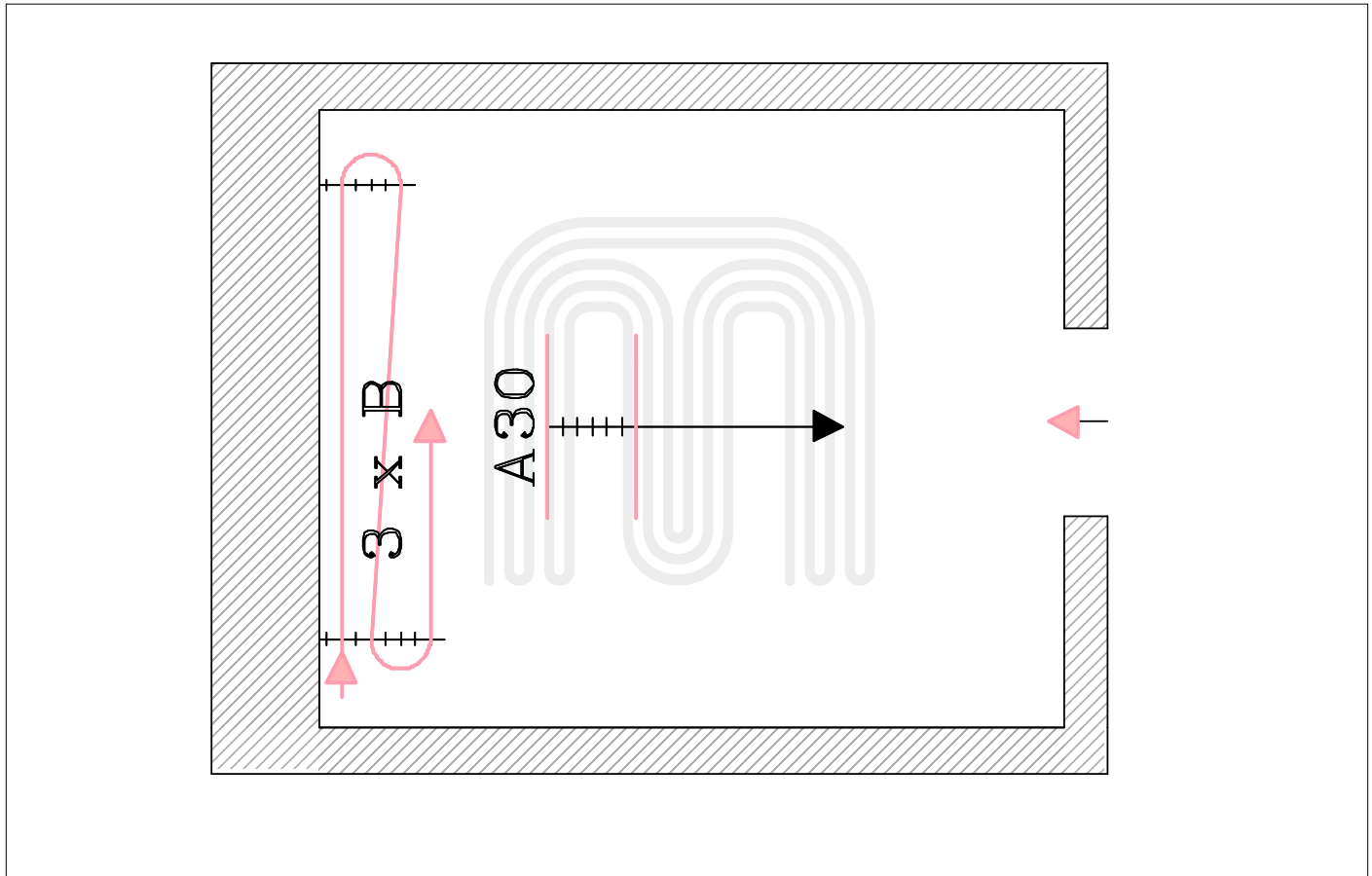
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System	MB Screed Flat System 17	Heat load	1002 W
Room	011-elternbad	Residual heat	-
Storey	Top storey	Internal temperature	24 °C
External zone inst. type	C	Silent Cooling output	577 W
External zone surface	2,53 m ²	Flow temperature cooling	23 °C
Internal zone inst. type	C	Cooling temperature	8,0 °C
Internal zone surface	9,88 m ²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	2
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	19354 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	12,41 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	3,60 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	113 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	2,3
Amount registers	2	Valve preset WZ1	-
Connection lines	14 m	Valve preset WZ 2	-
Registers FL each	50 m	Top floor	Tiles
Register length WZ 1	-	Floor insulation 1	12,41 m ² EPS 045 DES sm 35-3
Register length WZ 2	-	Floor insulation 2	-

<p>The installation bases on MULTIBETON's calculation program "Multiplaner". Hereafter you have to proceed following MULTIBETON's installation and engineering rules. Besides the valid laws, regulations, directives,</p>	<p>standards and the VOB must be observed. The instructions of producers of other crafts and the acknowledged rules of engineering and groovy execution must be applied.</p>
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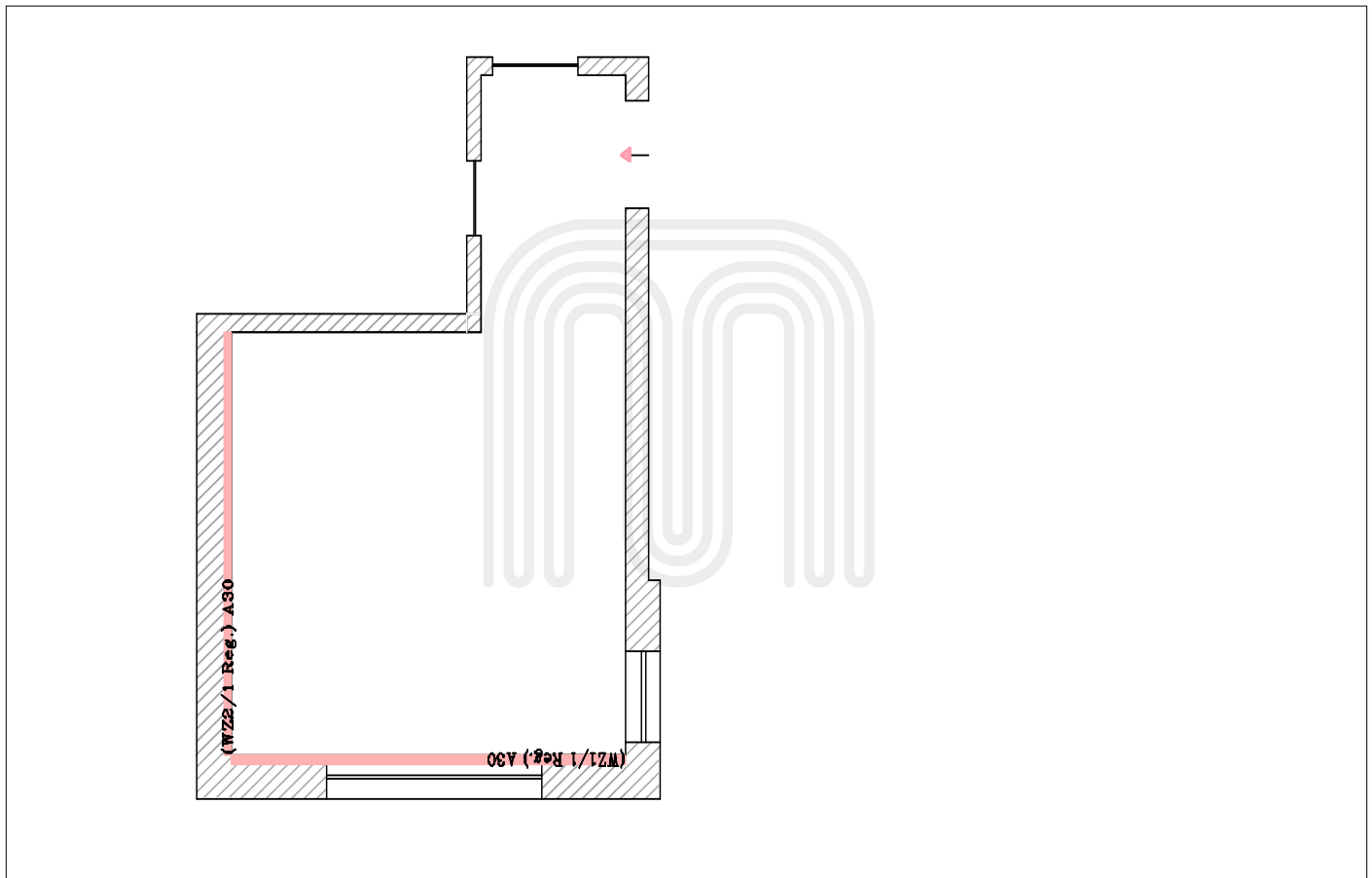
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System	MB Screed Flat System 17	Heat load	138 W
Room	012-ankleide	Residual heat	-
Storey	Top storey	Internal temperature	20 °C
External zone inst. type	B	Silent Cooling output	240 W
External zone surface	0,76 m ²	Flow temperature cooling	23 °C
Internal zone inst. type	A30	Cooling temperature	5,7 °C
Internal zone surface	4,39 m ²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	2
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	508 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	5,15 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	0,45 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	29 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	1,3
Amount registers	1	Valve preset WZ1	-
Connection lines	9 m	Valve preset WZ 2	-
Registers FL each	20 m	Top floor	Carpet
Register length WZ 1	-	Floor insulation 1	5,15 m ² EPS 045 DES sm 35-3
Register length WZ 2	-	Floor insulation 2	-

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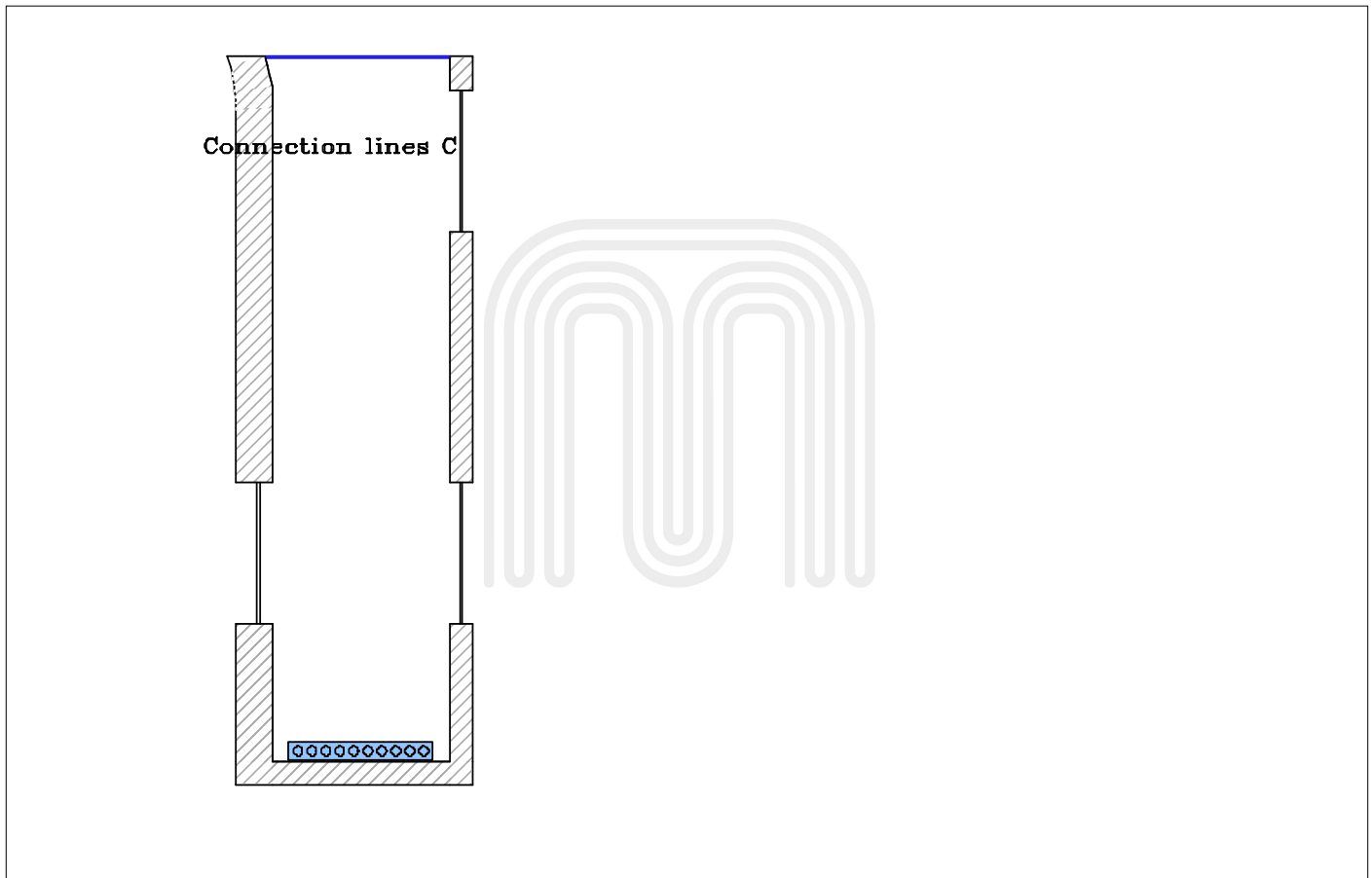
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System	MB Wall System 17	Heating load	869 W
Room	013-elttern	Residual heat	-
Storey	Top storey	Internal temperature	20° C
Wall zone 1 inst. type	A30	Output Silent Cooling	827 W
Wall zone 1 surface	7,99 m ²	Flow temperature cooling	23° C
Wall zone 2 inst. type	A30	Cooling temperature	5,8° C
Wall zone 2 surface	9,20 m ²	Air temperature max.	32° C
Wall zone 3 inst. type	-	Manifold group	2
Wall zone 3 surface	-	Flow temperature heating	36° C
Wall zone 4 inst. type	-	Pressure loss/circuit WZ 1	1787 Pa
Wall zone 4 surface	-	Pressure loss/circuit WZ 2	2369 Pa
Heated surface wall zones	17,19 m ²	Pressure loss/circuit WZ 3	-
Sum pipe length WZ	83 m	Pressure loss/circuit WZ 4	-
Amount registers	2	Amount of water/circuit WZ 1	1,21 l/min
Connection lines	26 m	Amount of water/circuit WZ 2	1,39 l/min
Register length WZ1	27 m	Amount of water/circuit WZ 3	-
Register length WZ 2	31 m	Amount of water/circuit WZ 4	-
Register length WZ 3	-	Valve preset WZ 1	2,4
Register length WZ 4	-	Valve preset WZ 2	2,0
		Valve preset WZ 3	-
		Valve preset WZ 4	-

<p>The installation bases on MULTIBETON's calculation program "Multiplaner". Hereafter you have to proceed following MULTIBETON's installation and engineering rules. Besides the valid laws, regulations, directives,</p>	<p>standards and the VOB must be observed. The instructions of producers of other crafts and the acknowledgement rules of engineering and groovy execution must be applied.</p>
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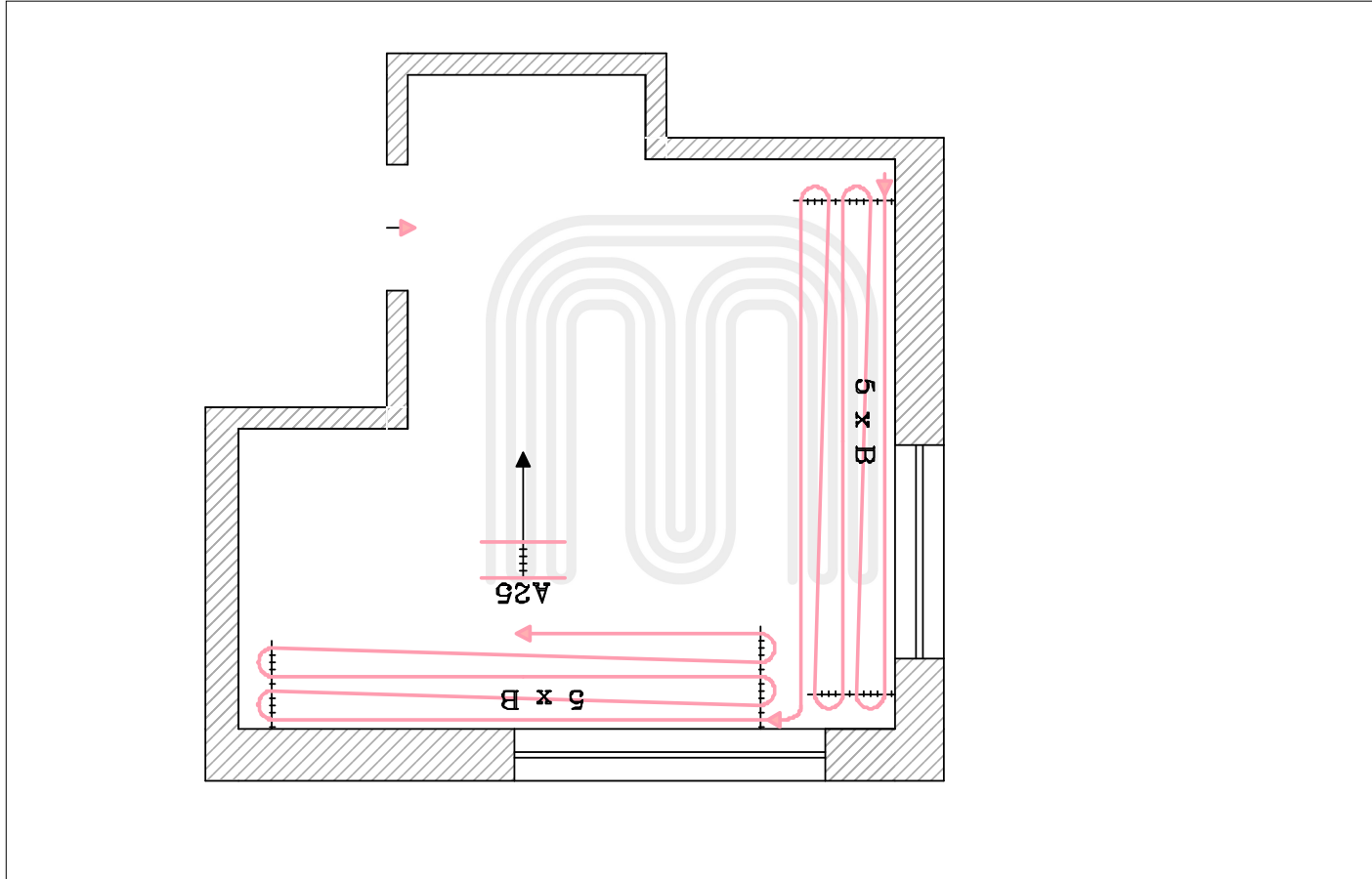
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System	MB Screed Flat System 17	Heat load	13 W
Room	014-flur 2	Residual heat	-
Storey	Top storey	Internal temperature	20 °C
External zone inst. type	-	Silent Cooling output	-
External zone surface	-	Flow temperature cooling	-
Internal zone inst. type	C	Cooling temperature	-
Internal zone surface	-	Air temperature max.	-
Wall zone 1 inst. type	-	Manifold group	-
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	2369 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	5,00 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	-
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	-	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	-
Amount registers	-	Valve preset WZ1	-
Connection lines	-	Valve preset WZ 2	-
Registers FL each	-	Top floor	Wood/parquet floor
Register length WZ 1	-	Floor insulation 1	5,00 m ² EPS 045 DES sm 35-3
Register length WZ 2	-	Floor insulation 2	-

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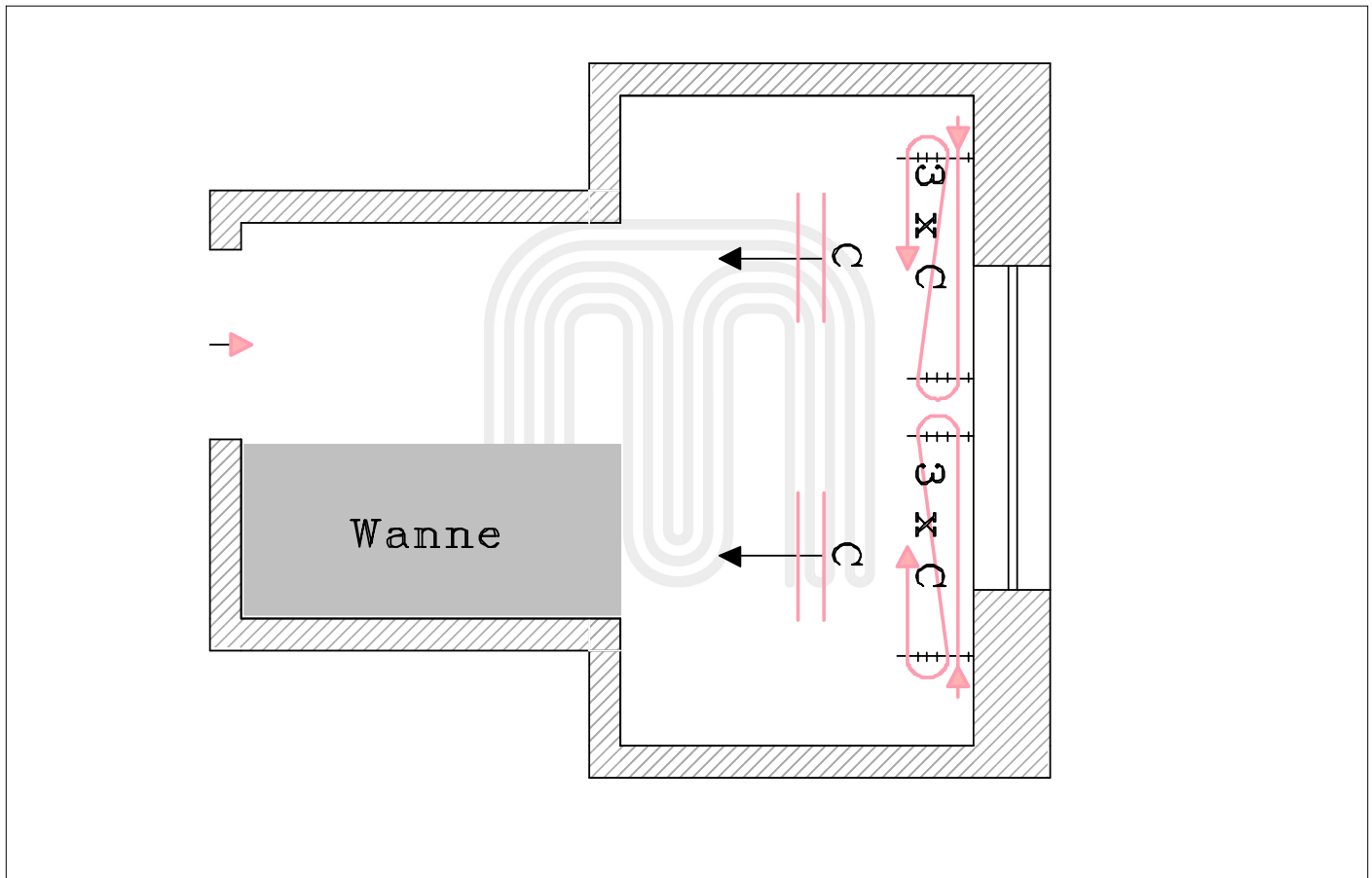
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System	MB Screed Flat System 17	Heat load	791 W
Room	015-kind 2	Residual heat	-
Storey	Top storey	Internal temperature	20 °C
External zone inst. type	B	Silent Cooling output	828 W
External zone surface	5,47 m ²	Flow temperature cooling	23 °C
Internal zone inst. type	A25	Cooling temperature	5,3 °C
Internal zone surface	12,35 m ²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	2
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	11135 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	17,82 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	2,27 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	88 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	3,0
Amount registers	1	Valve preset WZ1	-
Connection lines	3 m	Valve preset WZ 2	-
Registers FL each	85 m	Top floor	Laminate
Register length WZ 1	-	Floor insulation 1	17,82 m ² EPS 045 DES sm 35-3
Register length WZ 2	-	Floor insulation 2	-

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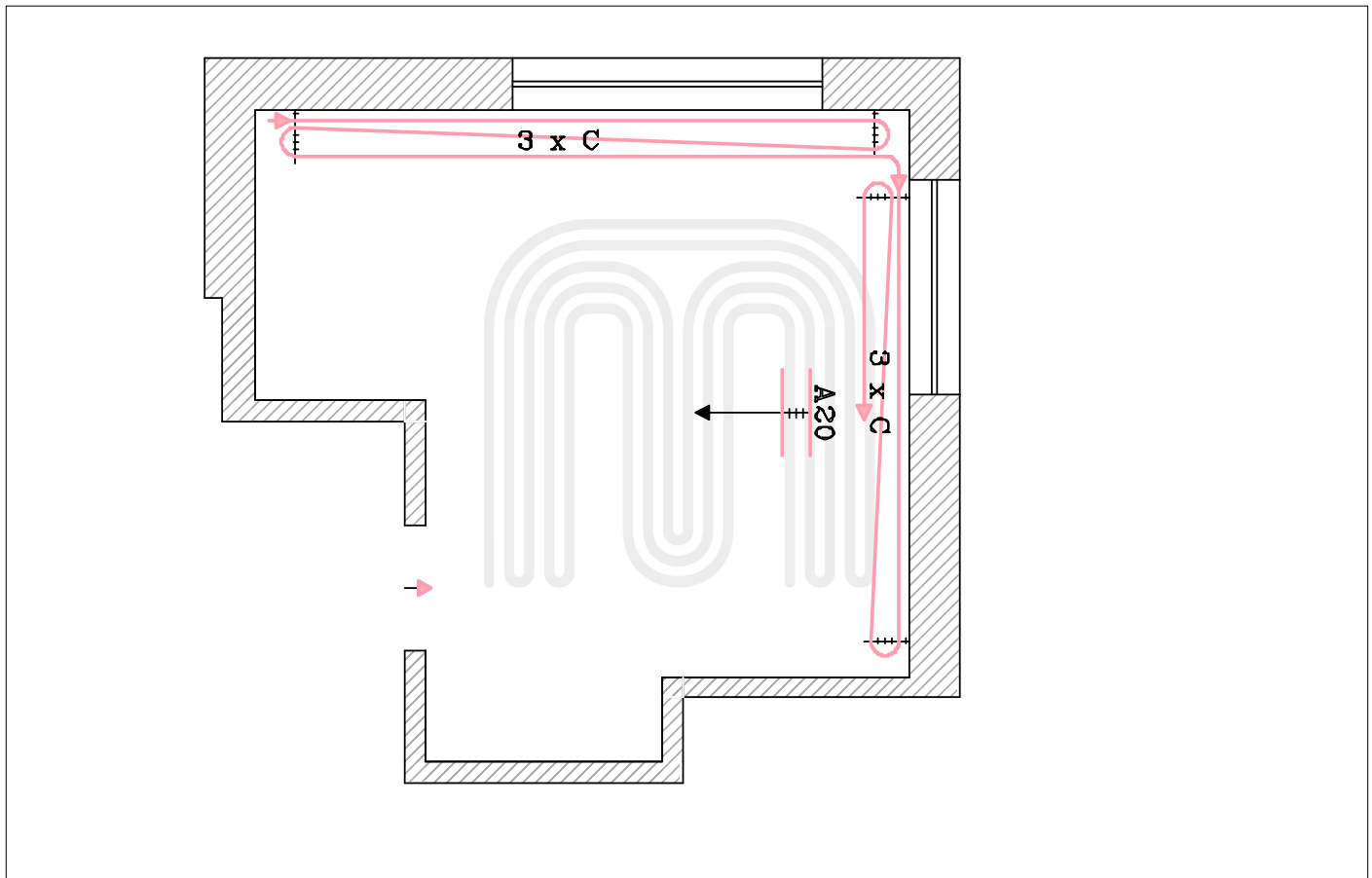
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System	MB Screed Flat System 17	Heat load	668 W
Room	016-bad	Residual heat	-
Storey	Top storey	Internal temperature	24 °C
External zone inst. type	C	Silent Cooling output	397 W
External zone surface	0,99 m²	Flow temperature cooling	23 °C
Internal zone inst. type	C	Cooling temperature	8,0 °C
Internal zone surface	5,54 m²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	-
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	3395 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	6,53 m²	Pressure loss/circuit WZ2	-
Unheated surface FL	2,00 m²	Amount of water/circuit FL	2,40 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	72 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	3,8
Amount registers	2	Valve preset WZ1	-
Connection lines	20 m	Valve preset WZ 2	-
Registers FL each	26 m	Top floor	Tiles
Register length WZ 1	-	Floor insulation 1	6,53 m² EPS 045 DES sm 35-3
Register length WZ 2	-	Floor insulation 2	-

<p>The installation bases on MULTIBETON's calculation program "Multiplaner". Hereafter you have to proceed following MULTIBETON's installation and engineering rules. Besides the valid laws, regulations, directives,</p>	<p>standards and the VOB must be observed. The instructions of producers of other crafts and the acknowledged rules of engineering and groovy execution must be applied.</p>
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System	MB Screed Flat System 17	Heat load	851 W
Room	017-kind 1	Residual heat	-
Storey	Top storey	Internal temperature	20 °C
External zone inst. type	C	Silent Cooling output	823 W
External zone surface	2,74 m ²	Flow temperature cooling	23 °C
Internal zone inst. type	A20	Cooling temperature	5,4 °C
Internal zone surface	14,96 m ²	Air temperature max.	32 °C
Wall zone 1 inst. type	-	Manifold group	2
Wall zone 1 surface	-	Flow temperature heating	36 °C
Wall zone 2 inst. type	-	Pressure loss/circuit FL	13640 Pa
Wall zone 2 surface	-	Pressure loss/circuit WZ1	-
Heated surface FL	17,70 m ²	Pressure loss/circuit WZ2	-
Unheated surface FL	-	Amount of water/circuit FL	2,45 l/min
Heated surface WZ	-	Amount of water/circuit WZ 1	-
Total pipe length FL	110 m	Amount of water/circuit WZ 2	-
Sum pipe length WZ	-	Valve preset reg. FL	3,4
Amount registers	1	Valve preset WZ1	-
Connection lines	13 m	Valve preset WZ 2	-
Registers FL each	97 m	Top floor	Laminate
Register length WZ 1	-	Floor insulation 1	17,70 m ² EPS 045 DES sm 35-3
Register length WZ 2	-	Floor insulation 2	-

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Designation	Thickness in mm
<u>MULTIBETON floor constructions FB11</u>	
Top floor 1 Natural stone	20,00
Pipe overlap Cement screed	45,00
Pipe bedding 	20,00
Insulation 1 EPS 045 DES sm 30-3	30,00
Insulation 2 EPS 035 DEO 60 mm	60,00
Raw soil Concrete standard	200,00
 <u>MULTIBETON floor constructions FB12</u>	
Top floor 1 Tiles	15,00
Pipe overlap Cement screed	45,00
Pipe bedding 	20,00
Insulation 1 EPS 045 DES sm 30-3	30,00
Insulation 2 EPS 035 DEO 60 mm	60,00
Raw soil Concrete standard	200,00
 <u>MULTIBETON floor constructions FB15</u>	
Top floor 1 Carpet	5,00
Pipe overlap Cement screed	45,00
Pipe bedding 	20,00
Insulation 1 EPS 045 DES sm 30-3	30,00
Insulation 2 EPS 035 DEO 60 mm	60,00
Raw soil Concrete standard	200,00
 <u>MULTIBETON floor constructions FB16</u>	
Top floor 1 Wood/parquet floor	15,00
Pipe overlap Cement screed	45,00
Pipe bedding 	20,00
Insulation 1 EPS 045 DES sm 30-3	30,00
Insulation 2 EPS 035 DEO 60 mm	60,00
Raw soil Concrete standard	200,00

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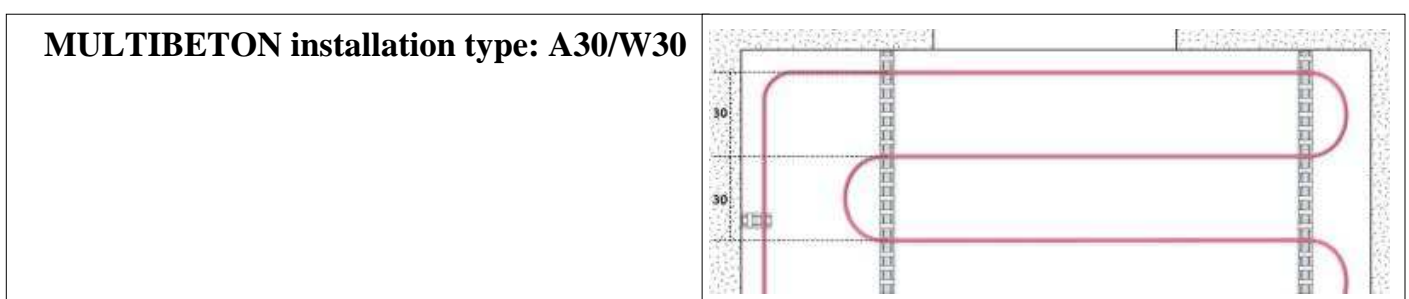
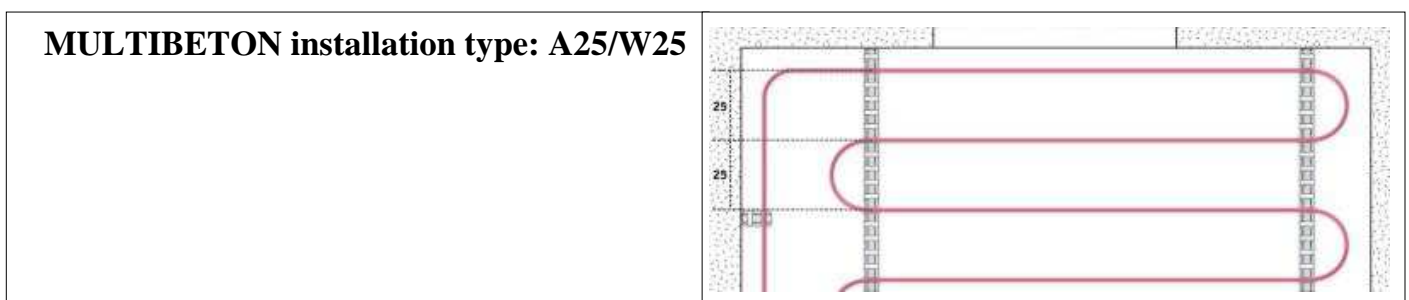
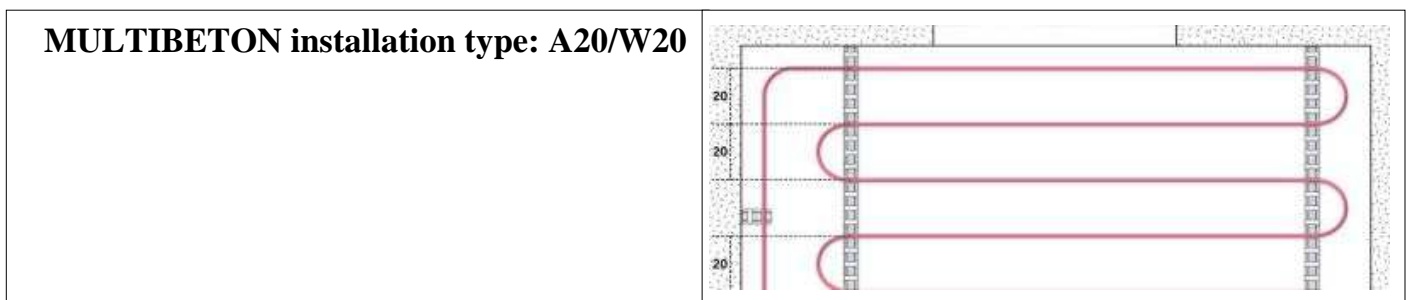
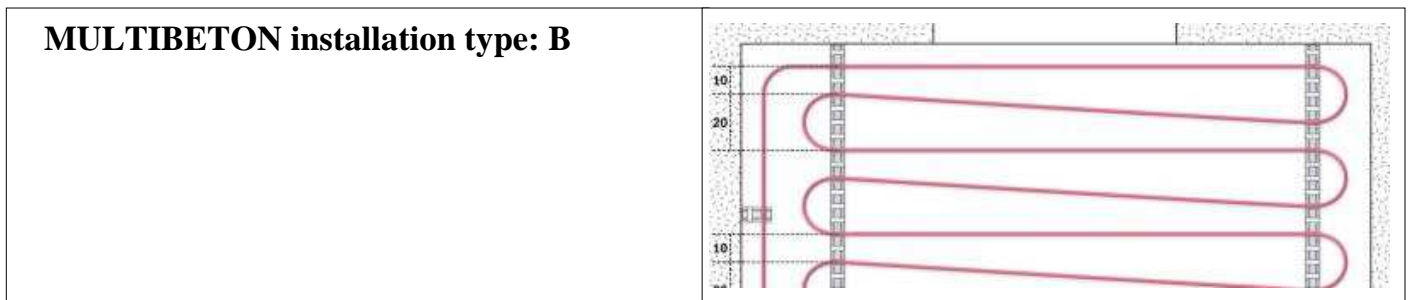
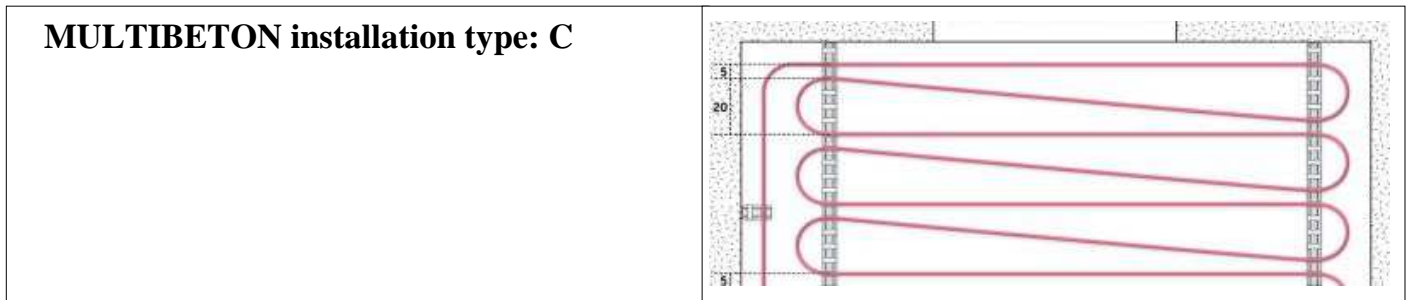
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Designation	Thickness in mm
<u>MULTIBETON floor constructions FB31</u>	
Top floor 1 Natural stone	20,00
Pipe overlap Cement screed	20,00
Pipe bedding ○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○	20,00
Insulation 1 EPS 045 DES sm 35-3	35,00
Raw soil Concrete standard	200,00
<u>MULTIBETON floor constructions FB32</u>	
Top floor 1 Tiles	15,00
Pipe overlap Cement screed	20,00
Pipe bedding ○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○	20,00
Insulation 1 EPS 045 DES sm 35-3	35,00
Raw soil Concrete standard	200,00
<u>MULTIBETON floor constructions FB35</u>	
Top floor 1 Carpet	5,00
Pipe overlap Cement screed	20,00
Pipe bedding ○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○	20,00
Insulation 1 EPS 045 DES sm 35-3	35,00
Raw soil Concrete standard	200,00
<u>MULTIBETON floor constructions FB36</u>	
Top floor 1 Wood/parquet floor	15,00
Pipe overlap Cement screed	20,00
Pipe bedding ○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○○	20,00
Insulation 1 EPS 045 DES sm 35-3	35,00
Raw soil Concrete standard	200,00

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Type	Designation	Width [m]	Height [m]	U value [W/m ² K]
WA01	Thickness =0,365			0,28
WA02	Thickness =0,240			0,28
WA03	Thickness =0,150			0,28
DA01	Standard RO			0,20
DE01	Standard CE			0,80
DE02	Standard CE			0,60
IW01	Thickness =0,150			1,60
IW02	Thickness =0,175			1,60
IW03	Thickness =0,240			1,60
IW04	Airspace separation			3,85
AT	101	1,510	2,550	1,80
AF	102	0,760	0,760	1,30
AF	103	2,260	2,260	1,30
AF	104	0,760	2,260	1,30
AF	105	2,260	0,760	1,30
AF	106	1,510	2,600	1,30
AF	107	2,260	1,260	1,30
AF	108	0,760	2,135	1,30
AF	109	1,510	1,260	1,30
IT	201	1,160	2,135	2,00
IT	202	0,885	2,135	2,00
IT	203	0,760	2,135	2,00
IT	204	0,620	2,135	2,00

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Continue accordingly...

The planning is optimally designed for MULTIBETON® systems only. Use only the MULTIBETON systems« with the pink MB system pipes and the screed-stabilizing MB steel clip rails for the sake of the warranty and the contentment of your clients.

