# Type 1: After Energy Demand Reduction

User Details:	
Assessor Name:       Stroma Number:         Software Name:       Stroma FSAP 2012       Software Version:       Version         Property Address:       L2 2BF West	n: 1.0.1.25
Address : , NW1 1JD	
1. Overall dwelling dimensions:	
Area(m²)         Av. Height(m)           Ground floor         80         (1a) x         3.15         (2a) =	Volume(m³) 252 (3a)
Total floor area TFA = $(1a)+(1b)+(1c)+(1d)+(1e)+(1n)$ [4]	
Dwelling volume $(3a)+(3b)+(3c)+(3d)+(3e)+(3n) = $	252 (5)
2. Ventilation rate:	
main heatingsecondary heatingothertotalNumber of chimneys $0$ $+$ $0$ $=$ $0$ $\times 40 =$ $[$ Number of open flues $0$ $+$ $0$ $+$ $0$ $=$ $0$ $\times 20 =$ $[$	m³ per hour           0         (6a)           0         (6b)
Number of intermittent fans 0 × 10 =	0 (7a)
Number of passive vents 0 x 10 =	0 (7b)
Number of flueless gas fires	0 (7c) ange <mark>s per</mark> hour
Infiltration due to chimneys, flues and fans = $(6a)+(6b)+(7a)+(7b)+(7c) = 0 \div (5) =$ If a pressurisation test has been carried out or is intended, proceed to (17), otherwise continue from (9) to (16) Number of storeys in the dwelling (ns)	0 (8)
Additional infiltration [(9)-1]x0.1 = Structural infiltration: 0.25 for steel or timber frame or 0.35 for masonry construction <i>if both types of wall are present, use the value corresponding to the greater wall area (after</i> <i>deducting areas of openings); if equal user 0.35</i> If suspended wooden floor, enter 0.2 (unsealed) or 0.1 (sealed), else enter 0	0 (10) 0 (11) 0 (12)
If no draught lobby, enter 0.05, else enter 0	0 (12)
Percentage of windows and doors draught stripped	0 (14)
Window infiltration         0.25 - [0.2 x (14) ÷ 100] =	0 (15)
Infiltration rate $(8) + (10) + (11) + (12) + (13) + (15) =$	0 (16)
Air permeability value, q50, expressed in cubic metres per hour per square metre of envelope area	3 (17)
If based on air permeability value, then $(18) = [(17) \div 20]+(8)$ , otherwise $(18) = (16)$ Air permeability value applies if a pressurisation test has been done or a degree air permeability is being used	0.15 (18)
Number of sides sheltered	0 (19)
Shelter factor $(20) = 1 - [0.075 \times (19)] =$	1 (20)
Infiltration rate incorporating shelter factor (21) = (18) × (20) =	0.15 (21)
Infiltration rate modified for monthly wind speed	
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec	
Monthly average wind speed from Table 7	
(22)m= 5.1 5 4.9 4.4 4.3 3.8 3.8 3.7 4 4.3 4.5 4.7	
Wind Factor (22a)m = (22)m ÷ 4	
(22a)m= 1.27 1.25 1.23 1.1 1.08 0.95 0.95 0.92 1 1.08 1.12 1.18	

Adjust	ed infiltr	ation rat	e (allowi	ng for sl	nelter an	d wind s	peed) =	(21a) x	(22a)m	-		_			
	0.19	0.19	0.18	0.16	0.16	0.14	0.14	0.14	0.15	0.16	0.17	0.18			
	ate effec echanica		-	rate for t	the appli	cable ca	se						0.5		(23a)
				endix N. (2	23b) = (23a	) x Fmv (e	equation (N	N5)), other	rwise (23b	) = (23a)			0.5		(23b)
					allowing fo					) (200)			0.5		(230) (23c)
			-	-	with hea					2b)m + (	23h) 🗸 [ʻ	1 – (23c)	64.6 - 1001	)	(230)
(24a)m=	0.37	0.36	0.36	0.34	0.34	0.32	0.32	0.32	0.33	0.34	0.35	0.35			(24a)
					without										
(24b)m=				0					0	0	0	0	l		(24b)
			tract ver		or positiv		ventilatio	n from c	utside						
					c) = (23b	-				5 × (23b	))				
(24c)m=	0	0	0	0	0	0	0	0	0	0	0	0			(24c)
d) If	natural	ventilatio	on or wh	ole hous	se positiv	e input	ventilatio	on from l	oft						
	if (22b)n	n = 1, th	en (24d)	m = (22	b)m othe	rwise (2	4d)m = (	0.5 + [(2	2b)m² x	0.5]					
(24d)m=	0	0	0	0	0	0	0	0	0	0	0	0			(24d)
	r		·	· · · · · · · · · · · · · · · · · · ·	) or (24b	, ,	, <u>,</u>	, 	<u> </u>	· · · · · ·					
(25)m=	0.37	0.36	0.36	0.34	0.34	0.32	0.32	0.32	0.33	0.34	0.35	0.35			(25)
3. He	at l <mark>osse</mark>	s and he	eat loss	oaramet	er:										
	<b>NE</b> NT	Gros		Openir	-	Net Ar		U-valu		AXU		k-value		AXK	
	т	area	(m²)	n	1 <sup>2</sup>	A ,r		W/m2		(W/I	K)	kJ/m²·l	<	kJ/K	
	ws Type					2.85	_	/[1/( 1.3 )+	Ļ	3.52					(27)
	ws Type					12.65		/[1/( 1.3 )+		15.63					(27)
	ws Type	93				2.85	x1/	/[1/( 1.3 )+	0.04] =	3.52	Ľ,				(27)
Walls		64		29.7	5	34.25	5 X	0.11	=	3.77					(29)
Total a	area of e	lements	, m²			64									(31)
Party	wall					19	x	0	=	0					(32)
Party v	wall					32	x	0	=	0					(32)
Party f	floor					80					[				(32a)
Party of	ceiling					80					[				(32b)
Interna	al wall **					74									(32c)
					indow U-va Ils and part		ated using	formula 1,	/[(1/U-valu	ie)+0.04] a	as given in	paragraph	3.2		
Fabric	heat los	s, W/K	= S (A x	U)				(26)(30)	+ (32) =				40.5	3	(33)
Heat c	apacity	Cm = S(	(Axk)						((28)	.(30) + (32	2) + (32a).	(32e) =	29383	3.5	(34)
Therm	al mass	parame	ter (TM	<sup>-</sup> = Cm -	÷ TFA) in	ı kJ/m²K			Indica	tive Value	: Medium		250		(35)
	ign assess used inste				e constructi	ion are not	t known pr	ecisely the	e indicative	values of	TMP in Ta	able 1f			
Therm	al bridge	es : S (L	x Y) cal	culated	using Ap	pendix ł	<						7		(36)
			are not kr	own (36) :	= 0.15 x (3	1)			()	(2.2)					
	abric he		. 1							(36) =	<b>05)</b> (5)		47.5	3	(37)
ventila	ation hea		1					•			25)m x (5)	_			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			

(38)m=	30.62	30.31	30	28.44	28.13	26.57	26.57	26.26	27.19	28.13	28.75	29.38		(38)
Heat tr	ansfer o	coefficie	nt, W/K						(39)m	= (37) + (3	38)m			
(39)m=	78.15	77.84	77.53	75.97	75.66	74.1	74.1	73.79	74.72	75.66	76.28	76.91		
Heat lo	oss para	ımeter (H	HLP), W	/m²K						Average = = (39)m ÷		12 /12=	75.89	(39)
(40)m=	0.98	0.97	0.97	0.95	0.95	0.93	0.93	0.92	0.93	0.95	0.95	0.96		
									,	Average =	Sum(40)1.	12 /12=	0.95	(40)
Numbe	-	· · · · · ·	nth (Tab	, 	Maria	line	11	A	0.00	0.4	Navi	Dec		
(41)m=	Jan 31	Feb 28	Mar 31	Apr 30	May 31	Jun 30	Jul 31	Aug 31	Sep 30	Oct 31	Nov 30	Dec 31		(41)
(41)11=	51	20	51	- 30	51	30	51	51	30	51	30	51		(41)
4. Wa	iter heat	tina ene	rgy requ	irement:								kWh/ye	ar:	
if TF	A > 13.9			: [1 - exp	(-0.0003	49 x (TF	-A -13.9	)2)] + 0.0	)013 x ( <sup>-</sup>	TFA -13.		46		(42)
	A £ 13.9	,	ater usar	ge in litre	s ner da	w Vd av	erade -	(25 x N)	+ 36		02	.69		(43)
Reduce	the annua	al average	hot water	usage by	5% if the a	welling is	designed t			se target o		09		(40)
not more	e that 125	litres per	person per	r day (all w	ater use, l	not and co	ld)							
Hot wate	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
	-			ach month					00.04	04.55	00.05			
(44)m=	101.96	98.25	94.55	90.84	87.13	83.42	83.42	87.13	90.84	94.55	98.25	101.96	1112.22	(44)
$Total = Sum(44)_{112} = 1112.32 $ (44) Energy content of hot water used - calculated monthly = 4.190 x Vd, m x nm x DTm / 3600 kWh/month (see Tables 1b, 1c, 1d)											()			
(45)m=	151.21	132.25	136.47	118.97	114.16	98.51	91.28	104.75	106	12 <mark>3.53</mark>	134.85	146.44		
lf in stand							antan 0 in	haven (40		Tota <mark>l = Su</mark>	m(45) <sub>112</sub> =	=	1458.42	(45)
			· ·	t of use (no			r	1	. ,	40.50				(46)
(46)m= Water	22.68 storage	19.84 loss:	20.47	17.85	17.12	14.78	13.69	15.71	15.9	18.53	20.23	21.97		(46)
	•		) includir	ng any so	olar or W	/WHRS	storage	within sa	ame ves	sel		0		(47)
	•	-		ank in dw	-			. ,						
			hot wate	er (this ir	ncludes i	nstantar	neous co	mbi boil	ers) ente	er '0' in (	47)			
	storage anufact		eclared I	oss facto	or is kno	wn (kWł	n/dav).					0		(48)
			m Table			(	, a.a.j / :					0		(49)
				, kWh/ye	ear			(48) x (49)	=			10		(50)
				cylinder l										
		-	factor fr	rom Tabl	e 2 (kW	h/litre/da	ıy)				0.	02		(51)
	•	from Ta		011 4.5							1	.03		(52)
			m Table	2b								.6		(53)
Energy	v lost fro	m water	<sup>-</sup> storage	e, kWh/ye	ear			(47) x (51)	x (52) x (	53) =	1.	03		(54)
Enter (50) or (54) in (55)										(55)				
Water	storage	loss cal	culated	for each	month			((56)m = (	55) × (41)	m				
(56)m=	32.01	28.92	32.01	30.98	32.01	30.98	32.01	32.01	30.98	32.01	30.98	32.01		(56)
If cylinde	er contains	s dedicate	d solar sto	orage, (57)i	m = (56)m	x [(50) – (	H11)] ÷ (5	0), else (5	7)m = (56)	m where (	H11) is fro	m Append	ix H	
(57)m=	32.01	28.92	32.01	30.98	32.01	30.98	32.01	32.01	30.98	32.01	30.98	32.01		(57)

Primar	y circuit	loss (ar	nnual) fro	om Table	e 3							0		(58)
	•				`	,	· ·	65 × (41)						
(mo		factor f	rom Tab	le H5 if t	here is s	olar wat	ter heati	ng and a	cylinde		stat)			
(59)m=	23.26	21.01	23.26	22.51	23.26	22.51	23.26	23.26	22.51	23.26	22.51	23.26		(59)
Combi	loss ca	culated	for each	month	(61)m =	(60) ÷ 36	65 × (41	)m	_					
(61)m=	0	0	0	0	0	0	0	0	0	0	0	0		(61)
Total h	neat requ	uired for	water h	eating ca	alculated	for eacl	h month	(62)m =	0.85 × (	(45)m +	(46)m +	(57)m +	(59)m + (61)m	
(62)m=	206.48	182.17	191.74	172.47	169.44	152	146.56	160.03	159.5	178.81	188.34	201.71		(62)
Solar DI	Solar DHW input calculated using Appendix G or Appendix H (negative quantity) (enter '0' if no solar contribution to water heating)													
(add a	dditiona	l lines if	FGHRS	and/or \	WWHRS	applies	, see Ap	pendix (	G)				_	
(63)m=	0	0	0	0	0	0	0	0	0	0	0	0		(63)
Output	t from w	ater hea	ter				-							
(64)m=	206.48	182.17	191.74	172.47	169.44	152	146.56	160.03	159.5	178.81	188.34	201.71		_
		_			-			Outp	out from wa	ater heate	r (annual)₁	12	2109.26	(64)
Heat g	ains froi	m water	heating,	, kWh/m	onth 0.2	5 ´ [0.85	× (45)m	ı + (61)m	n] + 0.8 x	(46)m	+ (57)m	+ (59)m	]	
(65)m=	94.5	83.91	89.6	82.35	82.18	75.55	74.57	79.05	78.04	85.3	87.63	92.91		(65)
in <mark>clı</mark>	ıde (57)ı	m in calo	culation	of (65)m	only if c	ylinder i	s in the o	dwelling	or hot w	ate <mark>r is f</mark> r	om com	munity h	eating	
5. In	ternai ga	ains (see	Table 5	5 and <b>5a</b>	):									
Metab	olic gain	s (Table	e 5), Wat	ts										
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
(66)m=	123.14	123.14	12 <mark>3.14</mark>	123.14	123.14	123.14	123.14	123.14	123.14	123.14	123.14	123.14		(66)
Lightin	ig gains	(calcula	ted in Ap	opendix	L, equat	ion L9 oi	r L9a), a	lso see <sup>-</sup>	Table 5					
(67)m=	19.56	17.38	14.13	10.7	8	6.75	7.3	9.48	12.73	16.16	18.86	20.11		(67)
Applia	nces gai	ins (calc	ulated in	Append	dix L, eq	uation L	13 or L1	3a), also	see Ta	ble 5				
(68)m=	219.44	221.72	215.98	203.76	188.34	173.85	164.17	161.89	167.63	179.84	195.27	209.76		(68)
Cookir	ng gains	(calcula	Ited in A	ppendix	L, equat	ion L15	or L15a)	), also se	ee Table	5				
(69)m=	35.31	35.31	35.31	35.31	35.31	35.31	35.31	35.31	35.31	35.31	35.31	35.31		(69)
Pumps	s and far	ns gains	(Table t	5a)				•						
(70)m=	0	0	0	0	0	0	0	0	0	0	0	0		(70)
Losse	s e.g. ev	aporatic	on (nega	tive valu	es) (Tab	le 5)								
(71)m=	-98.51	-98.51	-98.51	-98.51	-98.51	-98.51	-98.51	-98.51	-98.51	-98.51	-98.51	-98.51		(71)
Water	heating	gains (T	able 5)	•				•						
(72)m=	127.01	124.87	120.43	114.38	110.46	104.93	100.23	106.25	108.39	114.65	121.71	124.88		(72)
Total i	internal	gains =		•		(66)	m + (67)m	n + (68)m +	⊦ (69)m + (	(70)m + (7	1)m + (72)	m		
(73)m=	425.96	423.91	410.48	388.79	366.74	345.47	331.64	337.57	348.69	370.59	395.78	414.69		(73)
6. So	lar gains	S:	•				•		•	•	•	•		
Solar (	gains are o	alculated	using sola	r flux from	Table 6a	and associ	iated equa	ations to co	onvert to th	e applicat	le orientat	ion.		
Orient	ations /		- octor	A		<b></b>			~		гг		Caina	

Southeast 0.4 0.4 × 2.85 × 0.67 × 0.7 × 1.11 = 296.9 (7) Southeast 0.4 0.77 × 2.86 × 62.67 × 0.7 × 1.11 = 296.9 (7) Southeast 0.4 0.77 × 2.86 × 62.67 × 0.7 × 1.11 = 296.9 (7) Southeast 0.4 0.77 × 2.85 × 0.67 × 1.11 = 440.0 (7) Southeast 0.4 0.77 × 2.85 × 0.67 × 1.11 = 440.0 (7) Southeast 0.4 0.77 × 2.85 × 0.62 × 0.7 × 1.11 = 440.0 (7) Southeast 0.4 0.77 × 2.85 × 0.62 × 0.7 × 1.11 = 440.0 (7) Southeast 0.4 0.77 × 2.85 × 0.62 × 0.7 × 1.11 = 440.0 (7) Southeast 0.4 0.77 × 2.85 × 0.62 × 0.7 × 1.11 = 560.0 (7) Southeast 0.4 0.77 × 2.85 × 0.62 × 0.7 × 1.11 = 564.4 (7) Southeast 0.4 0.77 × 2.85 × 0.110.0 × 0.7 × 1.11 = 564.4 (7) Southeast 0.4 0.77 × 2.85 × 0.130.1 × 0.7 × 1.11 = 564.4 (7) Southeast 0.4 0.64 × 12.65 × 113.01 × 0.7 × 1.11 = 564.6 (7) Southeast 0.4 0.64 × 12.65 × 113.01 × 0.7 × 1.11 = 544.6 (7) Southeast 0.4 0.64 × 12.85 × 0.130.1 × 0.7 × 1.11 = 544.8 (7) Southeast 0.4 0.64 × 12.85 × 0.130.1 × 0.7 × 1.11 = 544.8 (7) Southeast 0.4 0.64 × 12.85 × 0.130.1 × 0.7 × 1.11 = 544.8 (7) Southeast 0.4 0.64 × 12.85 × 0.130.1 × 0.7 × 1.11 = 440.0 (7) Southeast 0.4 0.64 × 12.85 × 0.288 × 0.7 × 1.11 = 440.0 (7) Southeast 0.4 0.64 × 12.85 × 0.288 × 0.7 × 1.11 = 440.0 (7) Southeast 0.4 0.64 × 12.85 × 0.288 × 0.7 × 1.11 = 440.0 (7) Southeast 0.4 0.64 × 12.85 × 0.288 × 0.7 × 1.11 = 443.90 (7) Southeast 0.4 0.64 × 12.85 × 0.288 × 0.7 × 1.11 = 443.90 (7) Southeast 0.4 0.64 × 12.85 × 0.88.7 × 0.7 × 1.11 = 443.90 (7) Southeast 0.4 0.4 × 12.85 × 0.88.7 × 0.7 × 1.11 = 443.80 (7) Southeast 0.4 0.4 × 12.85 × 0.88.7 × 0.7 × 1.11 = 443.80 (7) Southeast 0.4 0.4 × 12.85 × 0.88.7 × 0.7 × 1.11 = 443.80 (7) Southeast 0.4 0.4 × 12.85 × 0.88.7 × 0.7 × 1.11 = 443.80 (7) Southeast 0.4 0.7 × 1.11 = 444.80 (7)															
Southeast 0, %       0.54       ×       12.65       ×       68.75       ×       0.7       ×       1.11       =       41.0.44       (7)         Southeast 0, %       0.54       ×       12.65       ×       60.26       ×       0.7       ×       1.11       =       60.86       (7)         Southeast 0, %       0.54       ×       12.65       ×       106.26       ×       0.7       ×       1.11       =       60.86       (7)         Southeast 0, %       0.54       ×       12.65       ×       118.16       ×       0.7       ×       1.11       =       544.86       (7)         Southeast 0, %       0.54       ×       12.65       ×       118.15       ×       0.7       ×       1.11       =       544.86       (7)         Southeast 0, %       0.54       ×       12.65       ×       118.15       ×       0.7       ×       1.11       =       544.86       (7)         Southeast 0, %       0.54       ×       12.65       ×       118.31       ×       0.7       ×       1.11       =       544.86       (7)         Southeast 0, %       0.54       ×       12.65	Southeast 0.9x	0.54	x	12.65	x	6	62.67	x	0.7	x	1.11	=	299.69	(77)	
Southeast 0, x       0.77       x       2.85       x       0.77       x       1.11       =       500.06       777         Southeast 0, x       0.54       x       112.65       x       100.25       x       0.77       x       1.11       =       500.06       777         Southeast 0, x       0.54       x       112.65       x       100.25       x       0.77       x       1.11       =       500.06       777         Southeast 0, x       0.54       x       12.85       x       118.01       x       0.77       x       1.11       =       544.45       0.77         Southeast 0, x       0.54       x       12.85       x       113.91       x       0.77       x       1.11       =       544.45       0.77         Southeast 0, x       0.54       x       12.85       x       113.91       x       0.77       x       1.11       =       544.45       0.77         Southeast 0, x       0.54       x       12.65       x       101.39       x       0.7       x       1.11       =       544.85       0.77         Southeast 0, x       0.77       x       2.85       x	Southeast 0.9x	0.77	x	2.85	x	6	62.67	x	0.7	x	1.11	=	288.83	(77)	
Southeast 0.9x       0.54       ×       12.65       ×       0.77       ×       1.11       =       5000.000       (77)         Southeast 0.9x       0.54       ×       12.65       ×       106.25       ×       0.7       ×       1.11       =       666.07       (77)         Southeast 0.9x       0.54       ×       12.65       ×       118.01       ×       0.7       ×       1.11       =       666.07       (77)         Southeast 0.9x       0.77       ×       2.85       ×       118.01       ×       0.7       ×       1.11       =       664.48       (77)         Southeast 0.9x       0.54       ×       12.65       ×       113.91       ×       0.7       ×       1.11       =       644.48       (77)         Southeast 0.9x       0.54       ×       12.65       ×       104.39       ×       0.7       ×       1.11       =       644.48       (77)         Southeast 0.9x       0.54       ×       12.65       ×       0.77       ×       1.11       =       643.08       (77)       Southeast 0.9x       0.77       ×       2.85       ×       0.7       ×       1.11       = </td <td>Southeast 0.9x</td> <td>0.54</td> <td>x</td> <td>12.65</td> <td>x</td> <td>8</td> <td>35.75</td> <td>x</td> <td>0.7</td> <td>x</td> <td>1.11</td> <td>=</td> <td>410.04</td> <td>(77)</td>	Southeast 0.9x	0.54	x	12.65	x	8	35.75	x	0.7	x	1.11	=	410.04	(77)	
Southeast 0.5x       0.77       ×       2.85       ×       0.77       ×       1.11       =       488.66       (77)         Southeast 0.5x       0.77       ×       2.85       ×       119.01       ×       0.77       ×       1.11       =       6560.07       (77)         Southeast 0.5x       0.77       ×       2.85       ×       119.01       ×       0.77       ×       1.11       =       6544.48       (77)         Southeast 0.5x       0.77       ×       2.85       ×       119.15       ×       0.77       ×       1.11       =       654.68       (77)         Southeast 0.5x       0.54       ×       12.85       ×       104.39       ×       0.77       ×       2.85       ×       104.39       ×       0.77       ×       2.85       ×       104.39       ×       0.77       ×       12.85       ×       0.77       ×       12.85       ×       0.77       ×       12.85       ×       0.77       ×       12.85       ×       0.77       ×       1.11       =       442.99       (77)       Southeast 0.8x       0.77       ×       1.11       =       442.79       (77)       Southeas	Southeast 0.9x	0.77	x	2.85	x	8	35.75	x	0.7	x	1.11	=	395.19	(77)	
Southeast 0, so       0.54       ×       1100       ×       0.77       ×       1.11       =       660.07       (7)         Southeast 0, so       0.54       ×       112.65       ×       1110.01       ×       0.77       ×       1.111       =       660.07       (7)         Southeast 0, so       0.54       ×       112.65       ×       113.15       ×       0.77       ×       1.111       =       564.66       (7)         Southeast 0, so       0.54       ×       112.65       ×       113.91       ×       0.77       ×       1.111       =       564.66       (7)         Southeast 0, so       0.54       ×       12.65       ×       104.39       ×       0.77       ×       1.111       =       544.66       (7)         Southeast 0, so       0.77       ×       2.85       ×       104.39       ×       0.77       ×       1.111       =       481.08       (7)         Southeast 0, so       0.77       ×       2.85       ×       0.77       ×       1.111       =       427.9       (7)         Southeast 0, so       0.77       ×       2.85       ×       0.77       ×	Southeast 0.9x	0.54	x	12.65	x	1	06.25	x	0.7	x	1.11	=	508.06	(77)	
Southeast 0 #       0.77       ×       2.85       ×       119.01       ×       0.77       ×       1.11       =       548.45       (7)         Southeast 0 #       0.54       ×       12.65       ×       118.15       ×       0.77       ×       1.11       =       548.46       (7)         Southeast 0 #       0.54       ×       12.65       ×       113.91       ×       0.77       ×       1.11       =       544.46       (7)         Southeast 0 #       0.54       ×       12.65       ×       113.91       ×       0.77       ×       1.11       =       544.66       (7)         Southeast 0 #       0.77       ×       2.85       ×       104.39       ×       0.77       ×       1.11       =       441.06       (7)         Southeast 0 #       0.64       ×       12.65       ×       69.27       ×       0.77       ×       1.11       =       313.22       (7)         Southeast 0 #       0.64       ×       12.65       ×       69.27       ×       0.7       ×       1.11       =       210.73       (7)       Southeast 0 #       0.77       ×       1.11       =       <	Southeast 0.9x	0.77	x	2.85	x	1	06.25	x	0.7	x	1.11	=	489.66	(77)	
Southeasto so $0.54$ × $12.65$ × $118.15$ × $0.7$ × $1.11$ = $544.96$ (7) Southeasto so $0.54$ × $12.65$ × $118.15$ × $0.7$ × $1.11$ = $544.96$ (7) Southeasto so $0.54$ × $12.65$ × $113.91$ × $0.7$ × $1.11$ = $544.96$ (7) Southeasto so $0.54$ × $12.65$ × $113.91$ × $0.7$ × $1.11$ = $544.96$ (7) Southeasto so $0.54$ × $12.65$ × $113.91$ × $0.7$ × $1.11$ = $524.96$ (7) Southeasto so $0.54$ × $12.65$ × $104.39$ × $0.7$ × $1.11$ = $524.96$ (7) Southeasto so $0.54$ × $12.65$ × $104.39$ × $0.7$ × $1.11$ = $443.99$ (7) Southeasto so $0.54$ × $12.65$ × $104.39$ × $0.7$ × $1.11$ = $443.99$ (7) Southeasto so $0.54$ × $12.65$ × $69.27$ × $0.7$ × $1.11$ = $432.9$ (7) Southeasto so $0.54$ × $12.65$ × $69.27$ × $0.7$ × $1.11$ = $427.9$ (7) Southeasto so $0.77$ × $2.85$ × $69.27$ × $0.7$ × $1.11$ = $210.73$ (7) Southeasto so $0.77$ × $2.85$ × $44.07$ × $0.7$ × $1.11$ = $210.73$ (7) Southeasto so $0.77$ × $2.85$ × $44.07$ × $0.7$ × $1.11$ = $210.73$ (7) Southeasto so $0.77$ × $2.86$ × $44.07$ × $0.7$ × $1.11$ = $210.73$ (7) Southeasto so $0.77$ × $2.85$ × $44.07$ × $0.7$ × $1.11$ = $16557$ (7) Southeasto so $0.77$ × $2.86$ × $13.49$ × $0.7$ × $1.11$ = $16557$ (7) Southeasto so $0.77$ × $2.86$ × $13.49$ × $0.7$ × $1.11$ = $16557$ (7) Southeasto so $0.77$ × $2.85$ × $106.25$ $0.7$ × $1.11$ = $1856$ (79) Southeasto so $0.77$ × $2.85$ × $106.25$ $0.7$ × $1.11$ = $1856$ (79) Southeasto so $0.77$ × $2.85$ × $106.35$ $0.77$ × $1.11$ = $489.66$ (79) Southeasto so $0.77$ × $2.85$ × $113.91$ $0.7$ × $1.11$ = $4410.06$ (79) Southeasto so $0.77$ × $2.85$ × $113.91$ $0.7$ × $1.11$ = $145.10$ (79) Southeasto so $0.77$ × $2.85$ × $113.91$ $0.7$ × $1.11$ = $145.10$ (79) Southeasto so $0.77$ × $2.85$ × $133.91$ $0.7$ × $1.11$ = $145.10$ (79) Southeasto so $0.77$ × $2.85$ × $134.91$ $0.7$ × $1.11$ = $145.10$ (79) Southeasto so $0.77$ × $2.85$ × $31.49$ $0.7$ × $1.11$ = $145.10$ (79) Southeasto so $0.77$ × $2.85$ × $31.49$ $0.7$ × $1.11$ = $145.10$ (79) Southeasto so $0.77$ × $2.85$ × $31.39$ $0.77$ × $1.11$ = $145.10$	Southeast 0.9x	0.54	x	12.65	×	1	19.01	x	0.7	x	1.11	=	569.07	(77)	
Southeastory       0.77       ×       2.85       ×       118.15       ×       0.7       ×       1.11       =       544.48       (7)         Southeastory       0.54       ×       12.65       ×       113.91       ×       0.7       ×       1.11       =       544.48       (7)         Southeastory       0.54       ×       12.65       ×       113.91       ×       0.7       ×       1.11       =       544.48       (7)         Southeastory       0.54       ×       12.65       ×       104.39       ×       0.7       ×       1.11       =       441.09       (7)         Southeastory       0.77       ×       2.85       ×       104.39       ×       0.7       ×       1.11       =       4427.9       (7)         Southeastory       0.54       ×       12.85       ×       69.27       ×       0.7       ×       1.11       =       31.22       (7)         Southeastory       0.54       ×       12.85       ×       69.27       ×       0.7       ×       1.11       =       131.22       (7)       Southeastory       0.77       ×       1.11       =       210.73	Southeast 0.9x	0.77	x	2.85	×	1	19.01	×	0.7	x	1.11		548.45	(77)	
Southeast $0.9$ , $0.54$ × $12.65$ × $113.91$ × $0.7$ × $1.11$ = $544.65$ (7) Southeast $0.9$ , $0.77$ × $2.85$ × $113.91$ × $0.7$ × $1.11$ = $544.65$ (7) Southeast $0.9$ , $0.54$ × $12.65$ × $104.39$ × $0.7$ × $1.11$ = $493.16$ (7) Southeast $0.9$ , $0.77$ × $2.85$ × $104.39$ × $0.7$ × $1.11$ = $443.08$ (7) Southeast $0.9$ , $0.77$ × $2.85$ × $104.39$ × $0.7$ × $1.11$ = $443.08$ (7) Southeast $0.9$ , $0.77$ × $2.85$ × $32.85$ × $0.7$ × $1.11$ = $427.9$ (7) Southeast $0.9$ , $0.54$ × $12.65$ × $92.85$ × $0.7$ × $1.11$ = $427.9$ (7) Southeast $0.9$ , $0.54$ × $12.65$ × $69.27$ × $0.7$ × $1.11$ = $427.9$ (7) Southeast $0.9$ , $0.54$ × $12.65$ × $44.07$ × $0.7$ × $1.11$ = $210.73$ (7) Southeast $0.9$ , $0.77$ × $2.85$ × $44.07$ × $0.7$ × $1.11$ = $210.73$ (7) Southeast $0.9$ , $0.77$ × $2.85$ × $44.07$ × $0.7$ × $1.11$ = $130.57$ (7) Southeast $0.9$ , $0.77$ × $2.85$ × $112.65$ × $44.07$ × $0.7$ × $1.11$ = $145.11$ (7) Southeast $0.9$ , $0.77$ × $2.85$ × $112.65$ × $14.07$ × $0.7$ × $1.11$ = $149.56$ (79) Southeast $0.9$ , $0.77$ × $2.85$ × $112.65$ × $14.07$ × $0.7$ × $1.11$ = $148.11$ (7) Southeast $0.9$ , $0.77$ × $2.85$ × $113.91$ × $0.7$ × $1.11$ = $48.66$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $113.91$ × $0.7$ × $1.11$ = $48.66$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $113.91$ × $0.7$ × $1.11$ = $48.66$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $113.91$ × $0.7$ × $1.11$ = $447.9$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $113.91$ × $0.7$ × $1.11$ = $447.9$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $113.91$ × $0.7$ × $1.11$ = $447.9$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $113.91$ × $0.7$ × $1.11$ = $447.9$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $104.39$ × $0.7$ × $1.11$ = $447.9$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $114.39$ × $0.7$ × $1.11$ = $447.9$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $114.39$ × $0.7$ × $1.11$ = $447.9$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $104.39$ × $0.7$ × $1.11$ = $448.66$ (79) Southwest $0.9$ , $0.77$ × $2.85$ × $104.39$ × $0.7$ × $1.11$ = $447.9$ (79) Southwest $0.9$	Southeast 0.9x	0.54	x	12.65	x	1	18.15	x	0.7	x	1.11	=	564.96	(77)	
Southeast $0.91$ $0.54$ × $12.65$ × $104.39$ × $0.7$ × $1.11$ = $49.16$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $104.39$ × $0.7$ × $1.11$ = $49.16$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $104.39$ × $0.7$ × $1.11$ = $49.16$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $92.26$ × $0.7$ × $1.11$ = $431.02$ (7) Southeast $0.91$ $0.77$ × $2.85$ × $32.85$ × $0.7$ × $1.11$ = $427.9$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $92.27$ × $0.7$ × $1.11$ = $427.9$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $92.27$ × $0.7$ × $1.11$ = $427.9$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $44.07$ × $0.7$ × $1.11$ = $210.73$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $44.07$ × $0.7$ × $1.11$ = $210.73$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $44.07$ × $0.7$ × $1.11$ = $10.57$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $44.07$ × $0.7$ × $1.11$ = $10.57$ (7) Southeast $0.91$ $0.54$ × $12.65$ × $44.07$ × $0.7$ × $1.11$ = $10.57$ (7) Southeast $0.91$ $0.77$ × $2.85$ × $44.07$ × $0.7$ × $1.11$ = $10.57$ (7) Southeast $0.91$ $0.77$ × $2.85$ × $12.65$ × $36.79$ 0.7 × $1.11$ = $10.57$ (7) Southeast $0.91$ $0.77$ × $2.85$ × $13.49$ × $0.7$ × $1.11$ = $10.56$ (9) Southwest $0.91$ $0.77$ × $2.85$ × $106.25$ $0.7$ × $1.11$ = $10.56$ (7) Southwest $0.91$ $0.77$ × $2.85$ × $106.25$ $0.7$ × $1.11$ = $284.85$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $113.91$ $0.7$ × $1.11$ = $544.49$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $113.91$ $0.7$ × $1.11$ = $544.49$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $113.91$ $0.7$ × $1.11$ = $233.12$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $104.39$ $0.7$ × $1.11$ = $234.25$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $134.49$ $0.7$ × $1.11$ = $145.10$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $104.39$ $0.7$ × $1.11$ = $230.1$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $104.39$ $0.7$ × $1.11$ = $230.1$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $104.39$ $0.7$ × $1.11$ = $230.1$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $104.39$ $0.7$ × $1.11$ = $230.1$ (79) Southwest $0.91$ $0.77$ × $2.85$ × $104.39$ $0.7$ × $1.11$ = $248.45$ (79) Southwest $0.91$	Southeast 0.9x	0.77	x	2.85	x	1	18.15	x	0.7	x	1.11	=	544.49	(77)	
Southeast $0$ , $0$ , $1$ , $1$ , $1$ , $1$ , $1$ , $1$ , $1$ , $1$	Southeast 0.9x	0.54	x	12.65	×	1	13.91	×	0.7	x	1.11		544.68	(77)	
Southeast 0,8 $0.77$ × 2.85 × 104.39 × $0.7$ × 1.11 = 441.08 (7) Southeast 0,8 $0.54$ × 12.65 × 92.85 × $0.7$ × 1.11 = 441.08 (7) Southeast 0,8 $0.54$ × 12.65 × 69.27 × $0.7$ × 1.11 = 427.9 (7) Southeast 0,8 $0.77$ × 2.85 × 69.27 × $0.7$ × 1.11 = 427.9 (7) Southeast 0,8 $0.77$ × 2.85 × 69.27 × $0.7$ × 1.11 = 210.73 (7) Southeast 0,8 $0.77$ × 2.85 × 44.07 × $0.7$ × 1.11 = 210.73 (7) Southeast 0,8 $0.77$ × 2.85 × 44.07 × $0.7$ × 1.11 = 210.73 (7) Southeast 0,8 $0.77$ × 2.85 × 44.07 × $0.7$ × 1.11 = 100.57 (7) Southeast 0,8 $0.77$ × 2.85 × 44.07 × $0.7$ × 1.11 = 100.57 (7) Southeast 0,8 $0.77$ × 2.85 × 31.49 × $0.7$ × 1.11 = 145.11 (7) Southeast 0,8 $0.77$ × 2.85 × 36.79 0.7 × 1.11 = 145.11 (7) Southeast 0,8 $0.77$ × 2.85 × 106.25 0.7 × 1.11 = 448.45 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 449.66 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 524.95 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.49 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.49 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.49 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.49 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.49 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.49 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.49 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.95 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.95 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 544.95 (79) Southwest 0,8 $0.77$ × 2.85 × 119.01 0.7 × 1.11 = 644.49 (79) Southwest 0,8 $0.77$ × 2.85 × 104.39 0.7 × 1.11 = 644.49 (79) Southwest 0,8 $0.77$ × 2.85 × 192.25 (77) × 1.11 = 644.49 (79) Southwest 0,8 $0.77$ × 2.85 × 192.45 (77) × 1.11 = 644.49 (79) Southwest 0,8 $0.77$ × 2.85 × 192.45 (77) × 1.11 = 644.49 (79) Southwest 0,8 $0.77$ × 2.85 × 192.45 (77) × 1.11 = 644.49 (79) Southwest 0,9 $0.77$ × 2.85 × 192.45 (193.98) 1663.94 10.72 (193.98) 1663.94 10.79 (193.98) 1664.49 1340.24 10.27 (195.98) 1665.96 1	Southeast 0.9x	0.77	x	2.85	×	1	13.91	x	0.7	x	1.11	=	524.95	(77)	
Southeast $0.3x$ $0.64$ x $12.65$ x $92.85$ x $0.7$ x $1.11$ = $443.99$ (7) Southeast $0.9x$ $0.54$ x $12.65$ x $69.27$ x $0.7$ x $1.11$ = $427.9$ (7) Southeast $0.9x$ $0.54$ x $12.65$ x $69.27$ x $0.7$ x $1.11$ = $427.9$ (7) Southeast $0.9x$ $0.54$ x $12.65$ x $69.27$ x $0.7$ x $1.11$ = $331.22$ (7) Southeast $0.9x$ $0.54$ x $12.65$ x $44.07$ x $0.7$ x $1.11$ = $210.73$ (7) Southeast $0.9x$ $0.54$ x $12.65$ x $44.07$ x $0.7$ x $1.11$ = $210.73$ (7) Southeast $0.9x$ $0.54$ x $12.65$ x $44.07$ x $0.7$ x $1.11$ = $210.73$ (7) Southeast $0.9x$ $0.54$ x $12.65$ x $44.07$ x $0.7$ x $1.11$ = $160.57$ (7) Southeast $0.9x$ $0.54$ x $12.65$ x $44.07$ x $0.7$ x $1.11$ = $160.57$ (7) Southeast $0.9x$ $0.77$ x $2.85$ x $31.49$ x $0.7$ x $1.11$ = $160.57$ (7) Southeast $0.9x$ $0.77$ x $2.85$ x $34.49$ x $0.7$ x $1.11$ = $166.16$ (7) Southeast $0.9x$ $0.77$ x $2.85$ x $34.49$ x $0.7$ x $1.11$ = $169.56$ (7) Southeast $0.9x$ $0.77$ x $2.85$ x $106.25$ $0.7$ x $1.11$ = $169.56$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $106.25$ $0.7$ x $1.11$ = $449.46$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $106.25$ $0.7$ x $1.11$ = $544.45$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $106.25$ $0.7$ x $1.11$ = $544.49$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $449.66$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $544.45$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $449.66$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $447.9$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $447.9$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $447.9$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $447.9$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $447.9$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $447.9$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $447.9$ (7) Southwest $0.9x$ $0.77$ x $2.85$ x $44.07$ $0.7$ x $1.11$ = $447.9$ (7) Southwest	Southeast 0.9x	0.54	x	12.65	×	1	04.39	x	0.7	x	1.11	=	499.16	(77)	
Southeast $0$ , $x$ $0.77$ $x$ $2.85$ $x$ $0.7$ $x$ $1.11$ $=$ $427.9$ $(77)$ Southeast $0.9x$ $0.54$ $x$ $12.65$ $x$ $0.7$ $x$ $1.11$ $=$ $331.22$ $(77)$ Southeast $0.9x$ $0.54$ $x$ $12.65$ $x$ $69.27$ $x$ $0.7$ $x$ $1.11$ $=$ $331.22$ $(77)$ Southeast $0.9x$ $0.54$ $x$ $12.65$ $x$ $44.07$ $x$ $0.7$ $x$ $1.11$ $=$ $210.73$ $(77)$ Southeast $0.9x$ $0.77$ $x$ $2.85$ $x$ $31.49$ $x$ $0.7$ $x$ $1.11$ $=$ $165.67$ $(77)$ Southwest $0.9x$ $0.77$ $x$ $2.85$ $x$ $36.79$ $0.7$ $x$ $1.11$ $=$ $489.66$ $(79)$ $5000000000000000000000000000000000000$	Southeast 0.9x	0.77	x	2.85	×	1	04.39	x	0.7	x	1.11	=	481.08	(77)	
Southeast $0.94$ 0.54       ×       12.65       ×       0.77       ×       1.11       =       331.22       (7)         Southeast $0.94$ 0.77       ×       2.85       ×       69.27       ×       0.7       ×       1.11       =       210.73       (7)         Southeast $0.94$ 0.77       ×       2.85       ×       44.07       ×       0.7       ×       1.11       =       210.73       (7)         Southeast $0.94$ 0.54       ×       12.65       ×       44.07       ×       0.7       ×       1.11       =       210.73       (7)         Southeast $0.94$ 0.77       ×       2.85       ×       31.49       ×       0.7       ×       1.11       =       210.73       (7)         Southwest $0.94$ 0.77       ×       2.85       ×       36.79       0.7       ×       1.11       =       145.11       (7)         Southwest $0.94$ 0.77       ×       2.85       ×       85.75       0.7       ×       1.11       =       286.84       (79)       Southwest $0.94$ 0.77       ×       2.85       ×       1106.25       0.7       ×       <	Southeast 0.9x	0.54	x	12.65	×	Ģ	92.85	x	0.7	x	1.11	=	443.99	(77)	
Southeast 0 sr       0.77 $\times$ 2.85 $\times$ 69.27 $\times$ 0.7 $\times$ 1.11 $=$ 319.22       77         Southeast 0 sr       0.54 $\times$ 12.65 $\times$ 44.07 $\times$ 0.7 $\times$ 1.11 $=$ 210.73       771         Southeast 0 sr       0.54 $\times$ 12.65 $\times$ 44.07 $0.7$ $\times$ 1.11 $=$ 210.73       771         Southeast 0 sr       0.54 $\times$ 12.65 $\times$ 31.49 $0.7$ $\times$ 1.11 $=$ 20.31       (77)         Southeast 0 sr       0.54 $\times$ 12.65 $\times$ 31.49 $0.7$ $\times$ 1.11 $=$ 20.31       (77)         Southwest 0 sr       0.77 $\times$ 2.85 $\times$ 36.75 $0.7$ $\times$ 1.11 $=$ 395.19       (79)         Southwest 0 sr $0.77$ $2.85$ $\times$ 110.15 $0.7$ $1.11$ $=$ 48.46       (79)       Southwest 0 sr $0.77$ $2.85$ $119.01$ $0.7$ $1.11$ $=$	Southeast 0.9x	0.77	x	2.85	×		92.85	] x	0.7	×	1.11	=	427.9	(77)	
Southeast 0.97 $0.7$ $1.11$ $=$ $210.73$ $(77)$ Southeast 0.97 $0.7$ $\times$ $2.85$ $44.07$ $\times$ $0.7$ $\times$ $1.11$ $=$ $200.73$ $(77)$ Southeast 0.97 $0.77$ $\times$ $2.85$ $\times$ $44.07$ $\times$ $0.7$ $\times$ $1.11$ $=$ $200.73$ $(77)$ Southeast 0.97 $0.77$ $\times$ $2.85$ $\times$ $31.49$ $\times$ $0.7$ $\times$ $1.11$ $=$ $200.73$ $(77)$ $\times$ $1.11$ $=$ $200.7$ $(77)$ $\times$ $1.11$ $=$ $200.7$ $(77)$ $\times$ $1.11$ $=$ $200.7$ $(77)$ $\times$ $2.85$ $36.79$ $0.7$ $\times$ $1.11$ $=$ $200.7$ $(79)$ $500$ $500.77$ $\times$ $1.11$ $=$ $280.67$ $0.7$ $\times$ $1.11$ $=$ $48.966$ $(79)$ $500$ $50.77$ $\times$ $1.11$ $=$ $50.79$ $50.77$ $\times$ $1.11$ $=$ $50.79$ $5$	Southeast 0.9x	0.54	x	12.65	×	6	69.27	] x	0.7	×	1.11	=	331.22	(77)	
Southeast 0.9*       0.77       x       2.85       x       44.07       x       0.7       x       1.11       =       20.31       77         Southeast 0.9*       0.54       x       12.65       31.49       x       0.7       x       1.11       =       180.57       77         Southeast 0.9*       0.77       x       2.85       x       31.49       x       0.7       x       1.11       =       180.57       77         Southeest 0.9*       0.77       x       2.85       x       36.79       0.7       x       1.11       =       180.56       79         Southwest 0.9*       0.77       x       2.85       x       62.67       0.7       x       1.11       =       288.83       79         Southwest 0.9*       0.77       x       2.85       x       106.25       0.7       x       1.11       =       489.66       79         Southwest 0.9*       0.77       x       2.85       x       110.07       x       1.11       =       484.45       79         Southwest 0.9*       0.77       x       2.85       x       111.9       0.7       x       1.11       =	Southeast 0.9x	0.77	×	2.85	×		69.27	х	0.7	х	1.11	=	319.22	(77)	
Southeast 0.9x $0.54$ x $12.65$ $31.49$ x $0.7$ x $1.11$ = $150.57$ $77$ Southeast 0.9x $0.77$ x $2.85$ $x$ $31.49$ x $0.7$ x $1.11$ = $145.11$ $77$ Southwest 0.9x $0.77$ x $2.85$ $x$ $36.79$ $0.7$ x $1.11$ = $169.56$ $79$ Southwest 0.9x $0.77$ x $2.85$ $x$ $86.75$ $0.7$ x $1.11$ = $28.83$ $79$ Southwest 0.9x $0.77$ x $2.85$ $x$ $106.25$ $0.7$ $x$ $1.11$ = $489.66$ $79$ Southwest 0.9x $0.77$ $x$ $2.85$ $x$ $119.01$ $0.7$ $x$ $1.11$ = $449.49$ $79$ Southwest 0.9x $0.77$ $x$ $2.85$ $x$ $113.91$ $0.7$ $x$ $1.11$ $=$ $54.49$ $79$ $50.7$ $x$ $1.11$ $=$ $52.45$ <td>Southeast 0.9x</td> <td>0.54</td> <td>×</td> <td>12.65</td> <td>×</td> <td></td> <td>14.07</td> <td>x</td> <td>0.7</td> <td>x</td> <td>1.11</td> <td>=</td> <td>210.73</td> <td>(77)</td>	Southeast 0.9x	0.54	×	12.65	×		14.07	x	0.7	x	1.11	=	210.73	(77)	
Southeast 0.9x0.77x145.11145.11145.11177Southwest 0.9x0.77x2.85x0.7x1.11=145.11(77)Southwest 0.9x0.77x2.85x62.670.7x1.11=148.13(79)Southwest 0.9x0.77x2.85x106.250.7x1.111=148.966(79)Southwest 0.9x0.77x2.85x106.250.7x1.111=148.966(79)Southwest 0.9x0.77x2.85x1111=148.449(79)Southwest 0.9x0.77x1.111=145.11(7)x118.05x118.050.77x1.111= <td>Southeast 0.9x</td> <td>0.77</td> <td>×</td> <td>2.85</td> <td>×</td> <td></td> <td>14.07</td> <td>1 🖈</td> <td>0.7</td> <td>x</td> <td>1.11</td> <td>=</td> <td>203.1</td> <td>(77)</td>	Southeast 0.9x	0.77	×	2.85	×		14.07	1 🖈	0.7	x	1.11	=	203.1	(77)	
Southwesto, 9x6.07x1.11=1.11=1.11=1.11=1.11=1.11=1.11=1.11=1.11=1.11=1.11=1.11=1.11=1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.85x1.11=2.851.11= <td>Southeast 0.9x</td> <td>0.54</td> <td>×</td> <td>12.65</td> <td>×</td> <td></td> <td>31.49</td> <td>x</td> <td>0.7</td> <td>x</td> <td>1.11</td> <td>=</td> <td>150.57</td> <td>(77)</td>	Southeast 0.9x	0.54	×	12.65	×		31.49	x	0.7	x	1.11	=	150.57	(77)	
Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)288.83(79)Southwestored in the living area from Table 9, Th 1 (°C)200.7X1.111288.85(77)X1.111200.7X1.111 <td colspa<="" td=""><td>Southeast 0.9x</td><td>0.77</td><td>×</td><td>2.85</td><td>×</td><td></td><td>31.4<mark>9</mark></td><td>x</td><td>0.7</td><td>x</td><td>1.11</td><td>=</td><td>145.11</td><td>(77)</td></td>	<td>Southeast 0.9x</td> <td>0.77</td> <td>×</td> <td>2.85</td> <td>×</td> <td></td> <td>31.4<mark>9</mark></td> <td>x</td> <td>0.7</td> <td>x</td> <td>1.11</td> <td>=</td> <td>145.11</td> <td>(77)</td>	Southeast 0.9x	0.77	×	2.85	×		31.4 <mark>9</mark>	x	0.7	x	1.11	=	145.11	(77)
Southwesto, 9x $0.77$ x $2.85$ x $85.75$ $0.7$ x $1.11$ = $395.19$ $(79)$ Southwesto, 9x $0.77$ x $2.85$ x $106.25$ $0.7$ x $1.11$ = $489.66$ $(79)$ Southwesto, 9x $0.77$ x $2.85$ x $119.01$ $0.7$ x $1.11$ = $548.45$ $(79)$ Southwesto, 9x $0.77$ x $2.85$ x $119.01$ $0.7$ x $1.11$ = $544.49$ $(79)$ Southwesto, 9x $0.77$ x $2.85$ x $113.91$ $0.7$ x $1.11$ = $544.49$ $(79)$ Southwesto, 9x $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $544.49$ $(79)$ Southwesto, 9x $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $544.95$ $(79)$ Southwesto, 9x $0.77$ x $2.85$ x $92.85$ $0.7$ x $1.11$ = $481.08$ $(79)$ Southwesto, 9x $0.77$ x $2.85$ x $92.85$ $0.7$ x $1.11$ = $491.02$ $79$ Southwesto, 9x $0.77$ x $2.85$ x $44.07$ $0.7$ x $1.11$ = $203.1$ $79$ Southwesto, 9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $40.79$ $83$ Southwesto, 9x $0.77$ x $2$	Sout <mark>hwest</mark> 0.9x	0.77	× آ	2.85	₹ ×		36.79	1	0.7	x	1.11	=	169.56	(79)	
Southwesto.9x $0.77$ x $106.25$ $0.7$ x $1111$ = $488.66$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $119.01$ $0.7$ x $1.11$ = $548.45$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $118.15$ $0.7$ x $1.11$ = $544.49$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $113.91$ $0.7$ x $1.11$ = $544.49$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $544.49$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $481.08$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $92.85$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $69.27$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $44.07$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $145.11$ <t< td=""><td>Sout<mark>hwest<sub>0.9x</sub></mark></td><td>0.77</td><td>×</td><td>2.85</td><td>×</td><td>e</td><td>2.67</td><td>i</td><td>0.7</td><td>x</td><td>1.11</td><td>=</td><td>288.83</td><td>(79)</td></t<>	Sout <mark>hwest<sub>0.9x</sub></mark>	0.77	×	2.85	×	e	2.67	i	0.7	x	1.11	=	288.83	(79)	
Southwest0.9x0.77x2.85x119.010.7x1.11=548.45(79)Southwest0.9x0.77x2.85x118.150.7x1.11=544.49(79)Southwest0.9x0.77x2.85x113.910.7x1.11=524.95(79)Southwest0.9x0.77x2.85x104.390.7x1.11=524.95(79)Southwest0.9x0.77x2.85x104.390.7x1.11=427.9(79)Southwest0.9x0.77x2.85x92.850.7x1.11=427.9(79)Southwest0.9x0.77x2.85x69.270.7x1.11=427.9(79)Southwest0.9x0.77x2.85x44.070.7x1.11=427.9(79)Southwest0.9x0.77x2.85x44.070.7x1.11=427.9(79)Southwest0.9x0.77x2.85x31.490.7x1.11=40.79(83)Southwest0.9x0.77x2.85x31.490.7x1.11=440.79(83)Total gains - internal and solar (84)m = (73)m + (83)m, watts(84)m =941.021301.251610.91876.162032.72199.411926.211798.89164	Southwest <sub>0.9x</sub>	0.77	×	2.85	×	8	35.75	ī	0.7	x	1.11	=	395.19	(79)	
Note: Internal temperature (heating season)Southwesto.9x $0.77$ x $2.85$ x $118.15$ $0.7$ x $1.11$ = $544.49$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $113.91$ $0.7$ x $1.11$ = $524.95$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $524.95$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $69.27$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $69.27$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $44.07$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $44.07$ $0.7$ x $1.11$ = $319.22$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $319.22$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $319.22$ $(79)$ Solar gains in watts, calculated for each month $(83)m = Sum(74)m(82)m$ $(83)m = Sum(74)m(82)m$ $(83)m = 941.02$ $130.25$ $1610.$	Southwest <sub>0.9x</sub>	0.77	x	2.85	×	1	06.25	i	0.7	×	1.11	=	489.66	(79)	
Southwesto.9x $0.77$ x $113.91$ $0.7$ x $113.91$ $0.7$ x $111.11$ $= 524.95$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $481.08$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $92.85$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $69.27$ $0.7$ x $1.11$ = $319.22$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $44.07$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $44.07$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwesto.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $145.11$ $(79)$ Solar gains in watts, calculated for each month(83)m = Sum(74)m(82)m(83) $154.57$ $(83)$ Total gains – internal and solar (84)m = $(73)m + (83)m$ , watts $(84)m = 941.02$ $1301.25$ $1610.9$ $1876.16$ $2032.72$ $199.41$ $1926.21$ $1798.89$ $1648.49$ $1340.24$ $1012.71$ $855.47$ $(84)$ <	Southwest <sub>0.9x</sub>	0.77	x	2.85	×	1	19.01	Ī	0.7	x	1.11	=	548.45	(79)	
Southwest0.9x $0.77$ x $2.85$ x $104.39$ $0.7$ x $1.11$ = $481.08$ $(79)$ Southwest0.9x $0.77$ x $2.85$ $92.85$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwest0.9x $0.77$ x $2.85$ $92.85$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwest0.9x $0.77$ x $2.85$ x $69.27$ $0.7$ x $1.11$ = $319.22$ $(79)$ Southwest0.9x $0.77$ x $2.85$ x $44.07$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwest0.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwest0.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwest0.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $203.1$ $(79)$ Solar gains in watts, calculated for each month $(83)m = Sum(74)m(82)m$ $(83)m = 515.06$ $877.34$ $120.42$ $1487.37$ $1665.98$ $1653.94$ $1594.57$ $1461.32$ $1299.8$ $969.65$ $616.93$ $440.79$ $(83)$ Total gains - internal and solar (84)m = $(73)m + (83)m$ , watts $(84)m = 941.02$ $1301.25$ $1610.9$ $1876.16$ $2032.72$ $199.41$ $1926.21$ $1798.89$ $1648.49$ $1340.24$ $1012.71$ $855.47$ </td <td>Southwest<sub>0.9x</sub></td> <td>0.77</td> <td>x</td> <td>2.85</td> <td>×</td> <td>1</td> <td>18.15</td> <td>Ī</td> <td>0.7</td> <td>x</td> <td>1.11</td> <td>=</td> <td>544.49</td> <td>(79)</td>	Southwest <sub>0.9x</sub>	0.77	x	2.85	×	1	18.15	Ī	0.7	x	1.11	=	544.49	(79)	
NoticeNoticeNoticeNoticeSouthwest0.9x $0.77$ x $2.85$ x $92.85$ $0.7$ x $1.11$ = $427.9$ $(79)$ Southwest0.9x $0.77$ x $1.11$ = $427.9$ $(79)$ Southwest0.9x $0.77$ x $1.11$ = $427.9$ $(79)$ Southwest0.9x $0.77$ x $1.11$ = $319.22$ $(79)$ Southwest0.9x $0.77$ x $1.11$ = $319.22$ $(79)$ Southwest0.9x $0.77$ x $1.11$ = $203.1$ $(79)$ Southwest0.9x $0.77$ x $1.11$ = $203.1$ $(79)$ Southwest0.9x $0.77$ x $1.11$ = $203.1$ $(79)$ Southwest0.9x $0.77$ x $1.11$ $1.11$ $1.506$ $877.34$ $120.42$ <td>Southwest<sub>0.9x</sub></td> <td>0.77</td> <td>x</td> <td>2.85</td> <td>×</td> <td>1</td> <td>13.91</td> <td>Ī</td> <td>0.7</td> <td>x</td> <td>1.11</td> <td>=</td> <td>524.95</td> <td>(79)</td>	Southwest <sub>0.9x</sub>	0.77	x	2.85	×	1	13.91	Ī	0.7	x	1.11	=	524.95	(79)	
Southwesto.9x $0.77$ x $2.85$ x $69.27$ $0.7$ x $1.11$ = $319.22$ $(79)$ Southwesto.9x $0.77$ x $1.11$ = $319.22$ $(79)$ Southwesto.9x $0.77$ x $1.11$ = $2.85$ x $31.49$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwesto.9x $0.77$ $x$ $31.49$ $0.77$ $x$	Southwest0.9x	0.77	x	2.85	×	1	04.39	Ī	0.7	x	1.11	= =	481.08	(79)	
OutputSouthwest0.9x $0.77$ x $2.85$ x $44.07$ $0.7$ x $1.11$ = $203.1$ $(79)$ Southwest0.9x $0.77$ x $2.85$ x $31.49$ $0.7$ x $1.11$ = $145.11$ $(79)$ Solar gains in watts, calculated for each month $(83)m = Sum(74)m \dots (82)m$ $(83)m = 515.06$ $877.34$ $1200.42$ $1487.37$ $1665.98$ $1653.94$ $1594.57$ $1461.32$ $1299.8$ $969.65$ $616.93$ $440.79$ $(83)$ Total gains - internal and solar ( $84$ )m = ( $73$ )m + ( $83$ )m , watts $(84)m = 941.02$ $1301.25$ $1610.9$ $1876.16$ $2032.72$ $1999.41$ $1926.21$ $1798.89$ $1648.49$ $1340.24$ $1012.71$ $855.47$ $(84)$ T. Mean internal temperature (heating season)Temperature during heating periods in the living area from Table 9, Th1 (°C) $21$ $(85)$	Southwest <sub>0.9x</sub>	0.77	x	2.85	×		92.85	Ī	0.7	×	1.11	=	427.9	(79)	
Southwesto.9x $1.00$ $1.00$ $1.00$ Southwesto.9x $0.77$ x $1.11$ $1.00$ Southwesto.9x $0.77$ x $1.11$ <th co<="" td=""><td>Southwest<sub>0.9x</sub></td><td>0.77</td><td>x</td><td>2.85</td><td>×</td><td>6</td><td>69.27</td><td>i</td><td>0.7</td><td>x</td><td>1.11</td><td>=</td><td>319.22</td><td>(79)</td></th>	<td>Southwest<sub>0.9x</sub></td> <td>0.77</td> <td>x</td> <td>2.85</td> <td>×</td> <td>6</td> <td>69.27</td> <td>i</td> <td>0.7</td> <td>x</td> <td>1.11</td> <td>=</td> <td>319.22</td> <td>(79)</td>	Southwest <sub>0.9x</sub>	0.77	x	2.85	×	6	69.27	i	0.7	x	1.11	=	319.22	(79)
Solar gains in watts, calculated for each month       (83)m = Sum(74)m(82)m         (83)m = $515.06$ $877.34$ $1200.42$ $1487.37$ $1665.98$ $1653.94$ $1594.57$ $1461.32$ $1299.8$ $969.65$ $616.93$ $440.79$ (83)         Total gains - internal and solar (84)m = (73)m + (83)m , watts       (84)m = $941.02$ $1301.25$ $1610.9$ $1876.16$ $2032.72$ $1999.41$ $1926.21$ $1798.89$ $1648.49$ $1340.24$ $1012.71$ $855.47$ (84)         Temperature during heating periods in the living area from Table 9, Th1 (°C)       21       (85)	Southwest0.9x	0.77	x	2.85	×	4	14.07	ī	0.7	×	1.11	=	203.1	(79)	
(83)m=       515.06       877.34       1200.42       1487.37       1665.98       1653.94       1594.57       1461.32       1299.8       969.65       616.93       440.79       (83)         Total gains – internal and solar (84)m = (73)m + (83)m , watts       (84)m=       941.02       1301.25       1610.9       1876.16       2032.72       1999.41       1926.21       1798.89       1648.49       1340.24       1012.71       855.47       (84)         Temperature during heating periods in the living area from Table 9, Th1 (°C)       21       (85)	Southwest <sub>0.9x</sub>	0.77	x	2.85	×		31.49	i	0.7	×	1.11	=	145.11	(79)	
(83)m=       515.06       877.34       1200.42       1487.37       1665.98       1653.94       1594.57       1461.32       1299.8       969.65       616.93       440.79       (83)         Total gains – internal and solar (84)m = (73)m + (83)m , watts       (84)m=       941.02       1301.25       1610.9       1876.16       2032.72       1999.41       1926.21       1798.89       1648.49       1340.24       1012.71       855.47       (84)         Temperature during heating periods in the living area from Table 9, Th1 (°C)       21       (85)	E							-						_	
Total gains – internal and solar $(84)m = (73)m + (83)m$ , watts $(84)m =$ 941.02       1301.25       1610.9       1876.16       2032.72       1999.41       1926.21       1798.89       1648.49       1340.24       1012.71       855.47       (84)         7. Mean internal temperature (heating season)       Temperature during heating periods in the living area from Table 9, Th1 (°C)       21       (85)	Solar gains in	watts, calc	ulated	for each m	onth		_	(83)m	n = Sum(74)m .	(82)m			_		
(84)m=       941.02       1301.25       1610.9       1876.16       2032.72       1999.41       1926.21       1798.89       1648.49       1340.24       1012.71       855.47       (84)         7. Mean internal temperature (heating season)         Temperature during heating periods in the living area from Table 9, Th1 (°C)       21       (85)	. ,							1461	1.32 1299.8	969.65	616.93	440.79		(83)	
7. Mean internal temperature (heating season)         Temperature during heating periods in the living area from Table 9, Th1 (°C)         21	Total gains – i	nternal and	d solar	(84)m = (7	3)m +	(83)m	, watts								
Temperature during heating periods in the living area from Table 9, Th1 (°C) [21] (85)	(84)m= 941.02	1301.25 1	610.9	1876.16 20	32.72 1	999.41	1926.21	1798	3.89 1648.49	1340.2	4 1012.71	855.47		(84)	
	7. Mean inter	nal temper	ature (	(heating se	ason)										
Utilisation factor for gains for living area, h1,m (see Table 9a)	Temperature	Temperature during heating periods in the living area from Table 9, Th1 (°C)													
	Utilisation fac	tor for gair	ns for li	ving area,	h1,m (	see Ta	ble 9a)								

Apr

May

Jun

Jul

Aug

Mar

Feb

Jan

Oct

Nov

Dec

Sep

(86)m=	0.95	0.84	0.67	0.49	0.35	0.24	0.17	0.19	0.31	0.58	0.87	0.97	I	(86)
Mean	interna	l temper	ature in	living are	ea T1 (fo	ollow ste	ps 3 to 7	7 in Table	e 9c)					
(87)m=	20.5	20.8	20.94	20.99	21	21	21	21	21	20.98	20.79	20.44		(87)
Temp	erature	durina h	neating p	eriods ir	n rest of	dwelling	from Ta	able 9. Tl	h2 (°C)					
(88)m=	20.1	20.11	20.11	20.13	20.13	20.15	20.15	20.15	20.14	20.13	20.12	20.12		(88)
Utilisa	ation fac	tor for g	ains for	rest of d	welling,	h2,m (se	e Table	9a)						
(89)m=	0.94	0.81	0.63	0.45	0.31	0.21	0.14	0.15	0.27	0.53	0.85	0.96	l	(89)
Mean	interna	l temper	ature in	the rest	of dwelli	ing T2 (f	ollow ste	eps 3 to 7	7 in Tabl	e 9c)				
(90)m=	19.48	19.87	20.05	20.12	20.13	20.15	20.15	20.15	20.14	20.11	19.88	19.4		(90)
									f	LA = Livin	g area ÷ (4	ł) =	0.4	(91)
Mean internal temperature (for the whole dwelling) = $fLA \times T1 + (1 - fLA) \times T2$														
(92)m=	19.89	20.24	20.41	20.47	20.48	20.49	20.49	20.49	20.48	20.46	20.24	19.81	l	(92)
Apply	adjustn	nent to t	he mear	n internal	temper	ature fro	m Table	4e, whe	ere appro	opriate				
(93)m=	19.89	20.24	20.41	20.47	20.48	20.49	20.49	20.49	20.48	20.46	20.24	19.81	l	(93)
8. Spa	ace hea	ting requ	uirement											
				mperatur		ned at st	ep 11 of	Table 9	o, so tha	t Ti,m=(	76)m an	d re-calc	ulate	
the ut				using Ta							- N I			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
(94)m=	0.94	tor for g	0.65	0.47	0.33	0.22	0.15	0.17	0.29	0.55	0.85	0.96		(94)
				4)m x (84		0.22	0.15	0.17	0.23	0.00	0.05	0.30		(01)
(95)m=	882.04	1058.14	1040.7	873.31	663.4	436.2	288.04	301.72	476.74	735.42	860.54	817.45		(95)
				perature				001.12		100.12	000.01	011.10		()
(96)m=	4.3	4.9	6.5	8.9	11.7	14.6	16.6	16.4	14.1	10.6	7.1	4.2		(96)
	oss rate	e for mea	an interr	al tempe	erature.	L Lm,W:	I =[(39)m_	i x [(93)m	L – (96)m	]				
(97)m=		1194.35	r	878.76	664.01	436.24	288.04	301.73	476.95	746.07	1002.45	1200.69	I	(97)
Space	e heatin	g require	ement fo	r each m	nonth, k	Nh/mon <sup>-</sup>	th = 0.02	24 x [(97)	)m – (95	)m] x (4′	L1)m			
(98)m=	250.28	91.53	27.92	3.93	0.45	0	0	0	0	7.93	102.17	285.13	l	
								Tota	l per year	(kWh/year	) = Sum(98	8)15,912 =	769.35	(98)
Space	e heatin	g require	ement in	kWh/m²	/year							ĺ	9.62	(99)
-				mmunity	-	scheme						L		
				ting, spa				ting prov	ided by :	a comm	unity sch	eme		
				condary/							unity our		0	(301)
Fractio	n of spa	ace heat	from co	mmunity	system	1 – (30 <sup>-</sup>	1) =					[	1	(302)
The com	munity so	heme mag	y obtain he	eat from se	everal sou	rces. The <sub>f</sub>	orocedure	allows for	CHP and u	up to four o	other heat	sources; th	he latter	
			-	mal and wa		rom powe	r stations.	See Appel	ndix C.			r		_
Fractio	n of hea	at from C	Commun	ity boiler	S								1	(303a)
Fractio	n of tota	al space	heat fro	m Comn	nunity bo	oilers				(3	02) x (303a	a) =	1	(304a)
Factor	for cont	rol and o	charging	method	(Table	4c(3)) fo	r commu	unity hea	ating syst	tem			1	(305)
Distribu	ution los	s factor	(Table 1	I2c) for c	commun	ity heati	ng syste	m				[	1.2	(306)
-	heating											-	kWh/yea	ır
Annual	space	heating	requiren	nent									769.35	

Space heat from Community boilers	(98) x (304a) x (305) x (306) =	923.22	(307a)
Efficiency of secondary/supplementary heating system in % (	(from Table 4a or Appendix E)	0	(308
Space heating requirement from secondary/supplementary s	ystem (98) x (301) x 100 ÷ (308) =	0	(309)
Water heating Annual water heating requirement		2109.26	]
If DHW from community scheme: Water heat from Community boilers	(64) x (303a) x (305) x (306) =	2531.11	(310a)
Electricity used for heat distribution	0.01 × [(307a)(307e) + (310a)(310e)] =	34.54	(313)
Cooling System Energy Efficiency Ratio		0	(314)
Space cooling (if there is a fixed cooling system, if not enter 0	<b>O)</b> = (107) ÷ (314) =	0	(315)
Electricity for pumps and fans within dwelling (Table 4f): mechanical ventilation - balanced, extract or positive input fro	om outside	253.95	(330a)
warm air heating system fans	0	(330b)	
pump for solar water heating	0	(330g)	
Total electricity for the above, kWh/year	253.95	(331)	
Energy for lighting (calculated in Appendix L)		345.49	(332)
12b. CO2 Emissions – Community heating scheme			_
CO2 from other sources of space and water heating (not CHI Efficiency of heat source 1 (%)	Energy kWh/year Emission factor kg CO2/kWh	kg CO <mark>2/yea</mark> r	(367a)
CO2 associated with heat source 1 [(307]	b)+(310b)] x 100 ÷ (367b) x 0 =	838.36	(367)
Electrical energy for heat distribution	[(313) x 0.52 =	17.93	(372)
Total CO2 associated with community systems	(363)(366) + (368)(372) =	856.28	(373)
CO2 associated with space heating (secondary)	(309) x 0 =	- 0	(374)
CO2 associated with water from immersion heater or instanta	aneous heater (312) x 0.22 =	0	(375)
Total CO2 associated with space and water heating	(373) + (374) + (375) =	856.28	(376)
CO2 associated with electricity for pumps and fans within dw	elling (331)) x 0.52 =	131.8	(378)
CO2 associated with electricity for lighting	(332))) x 0.52 =	179.31	(379)
Total CO2, kg/year sum of (376)(382) =		1167.39	(383)
Dwelling CO2 Emission Rate (383) ÷ (4) =		14.59	(384)
El rating (section 14)		87.49	(385)