

Design Criteria:

Roof pressures are as per AS1170.2-2011
 Region A, Importance Level 2,
 Probability of Exceedance = 1/500
 Building height = 5m to 10m
 Enclosed building with dominant opening
 $V_{strength} = 45 \text{ m/s}$
 $V_{serviceability} = 37 \text{ m/s}$
 $M_s = 1.0, M_t = 1.0, C_{dyn} = 1.0$
 $M_{z,cat}$ as per table below:

Terrain Category			
Height (m)	1 & 2	2.5	3 & 4
for ≥ 5.0	1.05	0.87	0.83
for ≤ 10	1.12	0.92	0.83

$k_{ce} = k_{ci} = 0.9$
 $k_a = 1.0$
 $k_p = 1.0$
 $C_{pe} = 0.9$
 $C_{pi} = 0.7$

Steel material should have minimum yield strength of 550 MPa for both 0.42 and 0.48 BMT

CMI - COMCLAD
 CYCLONIC AREA DESIGN GUIDE (FOR REGION "A" WIND AS PER AS1170.2-2011)

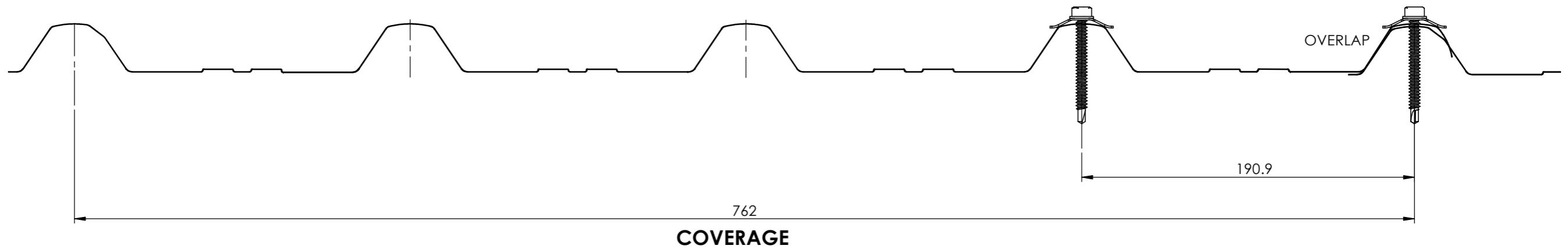
MAXIMUM ALLOWABLE SPANS (mm) REGION "A"																		
TERRAIN CATEGORY	LOCAL PRESSURE FACTOR (ki)	BUILDING HEIGHT UP TO 5m									BUILDING HEIGHT UP TO 10m							
		PRESSURE		SPAN (mm)						PRESSURE		SPAN (mm)						
		SERVICE (kPa)	ULTIMATE (kPa)	BMT 0.42mm			BMT 0.48mm			SERVICE (kPa)	ULTIMATE (kPa)	BMT 0.42mm			BMT 0.48mm			
				SINGLE	END	INTERNAL	SINGLE	END	INTERNAL			SINGLE	END	INTERNAL	SINGLE	END	INTERNAL	
1 & 2	1	0.90	1.33	1600	1750	2050	1750	1850	2200	1.02	1.51	1600	1750	2050	1750	1850	2200	
	1.5	1.26	1.87	1600	1750	2050	1750	1850	2200	1.44	2.13	1600	1750	2050	1750	1850	2200	
	2	1.63	2.41	1550	1750	2050	1600	1850	2200	1.85	2.74	1450	1750	2000	1550	1800	2000	
	3	2.36	3.50	1350	1400	1550	1400	1400	1550	2.69	3.98	1300	1250	1350	1350	1250	1350	
2.5	1	0.62	0.91	1600	1750	2050	1750	1850	2200	0.69	1.02	1600	1750	2050	1750	1850	2200	
	1.5	0.87	1.28	1600	1750	2050	1750	1850	2200	0.97	1.43	1600	1750	2050	1750	1850	2200	
	2	1.12	1.66	1600	1750	2050	1750	1850	2200	1.25	1.85	1600	1750	2050	1750	1850	2200	
	3	1.62	2.40	1550	1750	2050	1600	1850	2200	1.81	2.68	1500	1750	2050	1550	1850	2050	
3 & 4	1	0.56	0.83	1600	1750	2050	1750	1850	2200	0.56	0.83	1600	1750	2050	1750	1850	2200	
	1.5	0.79	1.17	1600	1750	2050	1750	1850	2200	0.79	1.17	1600	1750	2050	1750	1850	2200	
	2	1.02	1.51	1600	1750	2050	1750	1850	2200	1.02	1.51	1600	1750	2050	1750	1850	2200	
	3	1.48	2.18	1600	1750	2050	1650	1850	2200	1.48	2.18	1600	1750	2050	1650	1850	2200	

NOTES:

- SINGLE = SINGLE SPANS.
- INTERNAL = CONTINUOUS CLADDING (MINIMUM 3 SPANS), WITH END SPANS AT LEAST 20% SHORTER THAN INTERMEDIATE SPANS.
- END = CONTINUOUS CLADDING (MINIMUM 2 SPANS) ALL SPANS EQUAL.

THE VALUES ABOVE ARE CALCULATED IN ACCORDANCE WITH AS 4600 "COLD FORMED STEEL STRUCTURES" AND WERE DERIVED FROM BEAM MOMENT AND DEFLECTION FORMULAS. SPANS ARE DESIGNED TO LIMIT MAXIMUM DEFLECTION OF SPAN/150 UNDER SERVICE LOAD. CALCULATION OF ROOF FIXING CAPACITY IS BASED ON FIVE - 12G - 11 TPI BUILDDEX TEKSCREWS (OR EQUIVALENT) FASTENERS PER SHEET FIXED INTO MINIMUM STEEL SUPPORT OF 0.75mm BMT G550 AND INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.





Design Criteria:

Roof pressures are as per AS1170.2-2011
 Region B, Importance Level 2,
 Probability of Exceedance = 1/500
 Building height = 5m to 10m
 Enclosed building with dominant opening
 $V_{strength} = 57 \text{ m/s}$
 $V_{serviceability} = 39 \text{ m/s}$
 $M_s = 1.0, M_t = 1.0, C_{dyn} = 1.0$
 $M_{z,cat}$ as per table below:

Terrain Category			
Height (m)	1 & 2	2.5	3 & 4
for ≥ 5.0	1.05	0.87	0.83
for ≤ 10	1.12	0.92	0.83

$k_{ce} = k_{ci} = 0.9$
 $k_a = 1.0$
 $k_p = 1.0$
 $C_{pe} = 0.9$
 $C_{pi} = 0.7$

Steel material should have minimum yield strength of 550 MPa for both 0.42 and 0.48 BMT

CMI - COMCLAD
 CYCLONIC AREA DESIGN GUIDE (FOR REGION "B" WIND AS PER AS1170.2-2011)

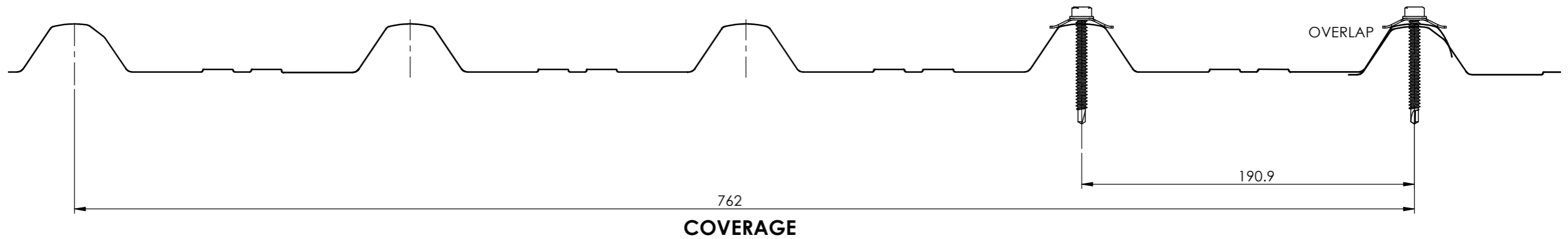
MAXIMUM ALLOWABLE SPANS (mm) REGION "B"																		
TERRAIN CATEGORY	LOCAL PRESSURE FACTOR (ki)	BUILDING HEIGHT UP TO 5m									BUILDING HEIGHT UP TO 10m							
		PRESSURE		SPAN (mm)						PRESSURE		SPAN (mm)						
		SERVICE (kPa)	ULTIMATE (kPa)	BMT 0.42mm			BMT 0.48mm			SERVICE (kPa)	ULTIMATE (kPa)	BMT 0.42mm			BMT 0.48mm			
				SINGLE	END	INTERNAL	SINGLE	END	INTERNAL			SINGLE	END	INTERNAL	SINGLE	END	INTERNAL	
1 & 2	1	1.00	2.13	1600	1750	2050	1750	1850	2200	1.13	2.42	1600	1750	2050	1750	1850	2200	
	1.5	1.40	3.00	1600	1650	1800	1750	1650	1800	1.60	3.41	1550	1450	1600	1600	1450	1600	
	2	1.81	3.87	1500	1300	1400	1550	1300	1400	2.06	4.40	1400	1100	1250	1500	1100	1250	
	3	2.63	5.61	1300	850	950	1350	850	950	2.99	6.38	1250	750	850	1300	750	850	
2.5	1	0.68	1.46	1600	1750	2050	1750	1850	2200	0.76	1.63	1600	1750	2050	1750	1850	2200	
	1.5	0.96	2.06	1600	1750	2050	1750	1850	2200	1.08	2.30	1600	1750	2050	1750	1850	2200	
	2	1.24	2.66	1600	1750	2050	1750	1850	2050	1.39	2.97	1600	1650	1850	1700	1650	1850	
	3	1.80	3.85	1500	1300	1400	1550	1300	1400	2.02	4.31	1450	1150	1250	1500	1150	1250	
3 & 4	1	0.62	1.33	1600	1750	2050	1750	1850	2200	0.62	1.33	1600	1750	2050	1750	1850	2200	
	1.5	0.88	1.87	1600	1750	2050	1750	1850	2200	0.88	1.87	1600	1750	2050	1750	1850	2200	
	2	1.13	2.42	1600	1750	2050	1750	1850	2200	1.13	2.42	1600	1750	2050	1750	1850	2200	
	3	1.64	3.51	1550	1400	1550	1600	1400	1550	1.64	3.51	1550	1400	1550	1600	1400	1550	

NOTES:

- SINGLE = SINGLE SPANS.
- INTERNAL = CONTINUOUS CLADDING (MINIMUM 3 SPANS), WITH END SPANS AT LEAST 20% SHORTER THAN INTERMEDIATE SPANS.
- END = CONTINUOUS CLADDING (MINIMUM 2 SPANS) ALL SPANS EQUAL.

THE VALUES ABOVE ARE CALCULATED IN ACCORDANCE WITH AS 4600 "COLD FORMED STEEL STRUCTURES" AND WERE DERIVED FROM BEAM MOMENT AND DEFLECTION FORMULAS. SPANS ARE DESIGNED TO LIMIT MAXIMUM DEFLECTION OF SPAN/150 UNDER SERVICE LOAD. CALCULATION OF ROOF FIXING CAPACITY IS BASED ON FIVE - 12G - 11 TPI BUILDEX TEKSCREWS (OR EQUIVALENT) FASTENERS PER SHEET FIXED INTO MINIMUM STEEL SUPPORT OF 0.75mm BMT G550 AND INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.





Design Criteria:
 Roof pressures are as per AS1170.2-2011
 Region C, Importance Level 2,
 Probability of Exceedance = 1/500
 Building height = 5m to 10m
 Enclosed building with dominant opening
 $V_{strength} = 69.3$ m/s
 $V_{serviceability} = 47$ m/s
 $M_s = 1.0, M_t = 1.0, C_{dyn} = 1.0$
 $M_{z,cat}$ as per table below:

Terrain Category			
Height (m)	1 & 2	2.5	3 & 4
for ≤ 5.0	1.05	0.87	0.83
for ≤ 10	1.12	0.92	0.83

$k_{ce} = k_{ci} = 0.9$
 $k_a = 1.0$
 $k_p = 1.0$
 $C_{pe} = 0.9$
 $C_{pi} = 0.7$

Steel material should have minimum yield strength of 550 MPa for both 0.42 and 0.48 BMT

CMI - COMCLAD
 CYCLONIC AREA DESIGN GUIDE (FOR REGION "C" WIND AS PER AS1170.2-2011)

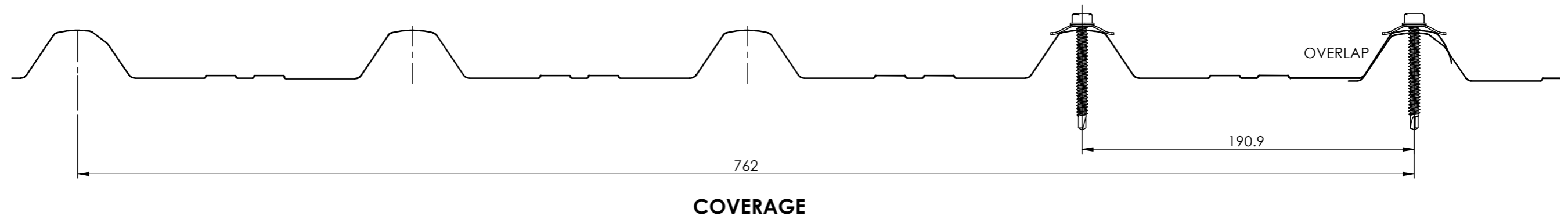
MAXIMUM ALLOWABLE SPANS (mm) REGION "C"																	
TERRAIN CATEGORY	LOCAL PRESSURE FACTOR (kl)	BUILDING HEIGHT UP TO 5m									BUILDING HEIGHT UP TO 10m						
		PRESSURE		SPAN (mm)						PRESSURE		SPAN (mm)					
		SERVICE	ULTIMATE	BMT 0.42mm			BMT 0.48mm			SERVICE	ULTIMATE	BMT 0.42mm			BMT 0.48mm		
		(kPa)	(kPa)	SINGLE	END	INTERNAL	SINGLE	END	INTERNAL	(kPa)	(kPa)	SINGLE	END	INTERNAL	SINGLE	END	INTERNAL
1 & 2	1	2.07	4.57	1050	1100	1200	1100	1100	1200	2.35	5.2	950	950	1050	950	950	1050
	1.5	2.65	5.86	800	850	900	850	850	900	3.02	6.67	750	750	800	750	750	800
	2	3.23	7.15	650	700	750	700	700	750	3.68	8.13	550	600	650	600	600	650
	3	4.4	9.72	350	450	450	450	500	550	5.00	11.06	200	300	300	300	400	400
2.5	1	1.42	3.14	1300	1600	1650	1600	1600	1750	1.59	3.51	1250	1400	1550	1400	1400	1550
	1.5	1.82	4.02	1150	1250	1350	1250	1250	1350	2.03	4.5	1050	1100	1200	1100	1100	1200
	2	2.22	4.91	1000	1000	1100	1000	1000	1100	2.48	5.49	900	900	1000	900	900	1000
	3	3.02	6.67	750	750	800	750	750	800	3.37	7.46	600	650	700	650	650	700
3 & 4	1	1.29	2.86	1400	1750	1750	1650	1750	1900	1.29	2.86	1400	1750	1750	1650	1750	1900
	1.5	1.66	3.66	1200	1350	1500	1350	1350	1500	1.66	3.66	1200	1350	1500	1350	1350	1500
	2	2.02	4.47	1050	1100	1200	1100	1100	1200	2.02	4.47	1050	1100	1200	1100	1100	1200
	3	2.75	6.07	800	800	900	800	800	900	2.75	6.07	800	800	900	800	800	900

NOTES:

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- END = CONTINUOUS CLADDING (MINIMUM 2 SPANS) ALL SPANS EQUAL.

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Design Criteria:
 Roof pressures are as per AS1170.2-2011
 Region D, Importance Level 2,
 Probability of Exceedance = 1/500
 Building height = 5m to 10m
 Enclosed building with dominant opening
 $V_{strength} = 88 \text{ m/s}$
 $V_{serviceability} = 53 \text{ m/s}$
 $M_s = 1.0, M_t = 1.0, C_{dyn} = 1.0$
 $M_{z,cat}$ as per table below:

Terrain Category			
Height (m)	1 & 2	2.5	3 & 4
for ≤ 5.0	1.05	0.87	0.83
for ≤ 10	1.12	0.92	0.83

$k_{ce} = k_{ci} = 0.9$
 $k_a = 1.0$
 $k_p = 1.0$
 $C_{pe} = 0.9$
 $C_{pi} = 0.7$

Steel material should have minimum yield strength of 550 MPa for both 0.42 and 0.48 BMT

CMI - COMCLAD
 CYCLONIC AREA DESIGN GUIDE (FOR REGION "D" WIND AS PER AS1170.2-2011)

MAXIMUM ALLOWABLE SPANS (mm) REGION "D" WINDS																	
TERRAIN CATEGORY	LOCAL PRESSURE FACTOR (kl)	BUILDING HEIGHT UP TO 5m									BUILDING HEIGHT UP TO 10m						
		PRESSURE		SPAN (mm)						PRESSURE		SPAN (mm)					
		SERVICE	ULTIMATE	BMT 0.42mm			BMT 0.48mm			SERVICE	ULTIMATE	BMT 0.42mm			BMT 0.48mm		
		(kPa)	(kPa)	SINGLE	END	INTERNAL	SINGLE	END	INTERNAL	(kPa)	(kPa)	SINGLE	END	INTERNAL	SINGLE	END	INTERNAL
1 & 2	1	1.84	7.38	650	650	700	650	650	700	2.09	8.38	500	600	650	600	600	650
	1.5	2.59	9.45	400	500	500	500	500	550	2.95	10.75	330	330	330	450	450	450
	2	3.34	11.53	230	230	230	200	300	300	3.81	13.11	-	-	-	-	-	-
2.5	3	4.85	15.68	-	-	-	-	-	-	5.52	17.84	-	-	-	-	-	-
	1	1.26	5.06	950	950	1050	950	950	1050	1.40	6.60	850	850	950	850	850	950
	1.5	1.78	6.49	750	750	800	750	750	800	1.97	7.18	650	700	750	700	700	750
3 & 4	2	2.30	7.91	600	600	650	600	600	650	2.54	8.75	450	550	600	550	250	600
	3	3.33	10.76	330	330	330	350	450	450	3.68	11.90	-	-	-	250	400	250
	1	1.15	4.61	1000	1050	1150	1050	1050	1150	1.15	4.61	1000	1050	1150	1050	1050	1150
3 & 4	1.5	1.62	5.91	800	850	900	850	850	900	1.62	5.91	800	850	900	850	850	900
	2	2.09	7.2	650	650	750	650	650	750	2.09	7.2	650	650	750	650	650	750
	3	3.03	9.79	350	450	450	450	500	550	3.03	9.79	350	450	450	500	500	550

- NOTES:
 - SINGLE = SINGLE SPANS.
 - INTERNAL = CONTINUOUS CLADDING (MINIMUM 3 SPANS), WITH END SPANS AT LEAST 20% SHORTER THAN INTERMEDIATE SPANS.
 - END = CONTINUOUS CLADDING (MINIMUM 2 SPANS) ALL SPANS EQUAL.

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