

Annex A: Soil resistivity analysis for Hollandse Kust (noord) Platform

Section	Subsection	From (km point)	To (km point)	Depth of installation	Additional cover	Total soil coverage	Point-ID	Thermal resistivity [K.m/W]	Remarks	
				m	m	m				
<i>Onshore route</i>										
1.1	Landstation			On Landstation (From air insulated cable terminations to HDD entry points)	5,97	6,27				
							1,2	B196	1,00 (2,6)	Thermal resistivity of original soil with low water content but including compaction of the soil is 1,0 K.m/W. Thermal resistivity of dried-out soil is max. 2,7 K.m/W. Critical temperature (Tcrit) above which soil drying-out occurs, is 45 °C. Contractor shall determine thickness of dried out layer and impact of this layer on ampacity.
							1,2	B201	1,00 (2,7)	
							1,2	B249	1,00 (2,5)	
1.2	HDD 3				6,27	7,02				
							3	B249	1,00 (2,5)	Points which are decisive for cable design have been determined along the HDD route based on specified survey locations. Thermal resistivity values are for soil only. HDD liner (duct) and liner filling medium (water) shall be taken into account in the ampacity calculations of Contractor. Therefore, soil coverage is measured from top of duct. Soil up to 3 m below groundlevel may dry-out. Thermal resistivity of dried-out soil is max. 2,5 K.m/W. Critical temperature (Tcrit) above which soil drying-out occurs, is 45 °C. Contractor shall determine thickness of dried out layer and impact of this layer on ampacity.
							12	B263	0,50	
							25	B22	0,44	
							25	B171	0,50	
							3	B171	0,9 (2,5)	
							1,2	B12/234	0,9 (2,5)	
1.3	Joint position 3				7,02	7,07				
							1,2	B231/235	0,9 (2,5)	Thermal resistivity of original soil with low water content but including compaction of the soil is 0,9 K.m/W. Thermal resistivity of dried-out soil is max. 2,6 K.m/W. Critical temperature (Tcrit) above which soil drying-out occurs, is 51 °C. Contractor shall determine thickness of dried out layer and impact of this layer on ampacity.
							1,2	B236/237	0,9 (2,2)	
							1,2	B12/234	0,9 (2,6)	
1.4	HDD 2				7,07	7,77				
							3	B238	0,9 (2,6)	Points which are decisive for cable design have been determined along the HDD route based on specified survey locations. Thermal resistivity values are for soil only. HDD liner (duct) and liner filling medium (water) shall be taken into account in the ampacity calculations of Contractor. Therefore, soil coverage is measured from top of duct. Soil up to 3 m below groundlevel may dry-out. Thermal resistivity of dried-out soil is max. 2,6 K.m/W. Critical temperature (Tcrit) above which soil drying-out occurs, is 51 °C. Contractor shall determine thickness of dried out layer and impact of this layer on ampacity.
							35	B238	0,50	
							35	B137	0,44	
							1,5	B137	0,50	
1.5	Joint position 2				7,77	7,81				
							1,2	B7/8, B23/234, B136/	0,54	
1.6	HDD 1				7,81	8,79				
							1,5	B137	0,60	Points which are decisive for cable design have been determined along the HDD route based on specified survey locations. Thermal resistivity values are for soil only. HDD liner (duct) and liner filling medium (water) shall be taken into account in the ampacity calculations of Contractor. Therefore, soil coverage is measured from top of duct.
							35	B137	0,40	
							45	B6	0,42	
							43	B3	0,50	
							5	B3	0,63	

Section		From	To	Depth of installation	Additional cover	Total soil coverage	Point-ID	Easting	Nording	Thermal resistivity [K.m/W]	Remarks	
				m	m	m						
Beach and nearshore borehole locations												
2.1	Beach		KP 0 in the RPL	Boundary Breakerzone - Shoreface							This section "Beach" shall be assessed on a soil thermal resistivity of 0,60 K.m/W and soil coverage of 13 m.	
					5	8	13	HKWa2_S12_84	607789.07	5817933.00		0,60
					5	8	13	HKWa2_S12_85	607750.37	5817942.20		0,40
					5	8	13	HKWa2_S12_86	607706.92	5817964.07		0,50
2.2	Near shore		Boundary Breakerzone Shoreface	"3 km border"							This section "Near shore" shall be assessed on a soil thermal resistivity of 0,55 K.m/W and soil coverage of 10 m.	
					5	5	10	HKN2_S11_82	607012.24	5818486.71		0,52
					5	5	10	HKWa2_S10_83	606060.10	5818995.21		0,42
					5	5	10	HKN1_S10_87	606510.36	5820179.65		0,49
					5	5	10	HKWa1_S10_01	606130.18	5820027.93		0,54
					5	5	10	HKN1_S10_02	606371.19	5821115.40		0,50
					5	5	10	HKWa2_S10_03	605545.34	5822070.58		0,44
					5	5	10	HKWa1_S10_04	605742.25	5822754.09		0,47
					5	5	10	HKN1_S10_05	606055.71	5823952.42	0,53	

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			m	m	m					
Offshore borehole locations										
3	Offshore non mobile area 1	"3 km border"	Sand waves area 1							
			1	0,5	1,5	HKWa2_S10_06	605157.79	5824666.18	0,47	This section "Offshore non mobile area 1" shall be assessed on a soil thermal resistivity of 0,55 K.m/W and soil coverage of 1,5 m.
			1	0,5	1,5	HKN2_S10_07	605593.53	5825611.79	0,46	
			1	0,5	1,5	HKN1_S10_08	605254.78	5826330.24	0,52	
			1	0,5	1,5	HKWa1_S09_09	604484.29	5826421.59	0,48	
			1	0,5	1,5	HKN2_S09_10	604060.66	5826997.02	0,49	
			1	0,5	1,5	HKWa2_S09_11	604060.66	5827257.07	0,49	
			1	0,5	1,5	HKN1_S09_12	602201.89	5828682.32	0,47	
			1	0,5	1,5	HKN2_S09_13	601403.16	5829072.9	0,46	
			1	0,5	1,5	HKWa2_S09_14	600302.07	5829447.33	0,50	
			1	0,5	1,5	HKN1_S09_15	599667.53	5830733.97	0,47	
			1	0,5	1,5	HKWa1_S09_16	598853.4	5830886.91	0,44	
			1	0,5	1,5	HKWa2_S09_17	597987.15	5831329.53	0,45	
			1	0,5	1,5	HKN1_S09_18	597784.37	5832270.99	0,51	
			1	0,5	1,5	HKWa2_S09_19	596438.01	5832591.3	0,40	
			1	0,5	1,5	HKN2_S09_26	596472.88	5833396.64	0,45	
			1	0,5	1,5	HKN2_S09_20	596478.2	5833443.32	0,48	
			1	0,5	1,5	HKN1_S08_23	596696.32	5834494.26	0,45	
			1	0,5	1,5	HKWa2_S08_21	596117.24	5834494.26	0,46	
			1	0,5	1,5	HKN1_S08_22	596117.83	5836543.25	0,51	
			1	0,5	1,5	HKN2_S07_24	595200.13	5836872.64	0,40	
			1	0,5	1,5	HKN2_S07_25	595094.73	5836898.26	0,51	
			1	0,5	1,5	HKWa2_S07_27	594003.6	5836752.23	0,43	
			1	0,5	1,5	HKN1_S07_28	593641.61	5837465.65	0,47	
			1	0,5	1,5	HKN2_S07_29	592175.67	5837626.44	0,46	
			1	0,5	1,5	HKN2_S07_30	592088.6	5837647.69	0,41	
			1	0,5	1,5	HKWa2_S07_31	590979.89	5837590.79	0,53	
			1	0,5	1,5	HKN2_S07_33	589515.42	589515.42	0,47	
			1	0,5	1,5	HKN1_S07_32	590332.74	5838485.89	0,46	
4	Sand wave area 1									
			1	3,5	4,5	HKWa2_S06_34	588829.37	5837662.11	0,41	This section "Sand wave area 1" shall be assessed on a soil thermal resistivity of 0,5 K.m/W and soil coverage of 4,5 m.
			1	3,5	4,5	HKN1_S07_35	588608.34	5839143.11	0,49	
			1	3,5	4,5	HKWa1_S06_40	587702.1	5837381.75	0,45	
			1	3,5	4,5	HKN2_S07_36	588608.34	5839502.98	0,44	
			1	3,5	4,5	HKN1_S07_37	587435.09	5839473.47	0,42	
			1	3,5	4,5	HKWa1_S06_38	586806.96	5836906.69	0,42	
			1	3,5	4,5	HKWa1_S05_39	586074.01	5836940.97	0,40	