

1. Rozmístění tlumičů vibrací port. TR V.B. - st.č. 30, st.č. 64 - port. TR V.M.
2. Montážní návod tlumičů vibrací KZL 2S 2/24 (M167/R91-228)
3. Rozmístění tlumičů vibrací st.č. 41 - st.č. 64
4. Montážní návod tlumičů vibrací KZL 3S 2/24 (M272/R130-642)

c	.	.	.
b	.	.	.
a	Změna KZL	12.2019	Steinbauer
	Popis změny	Datum	Vykonat

Elektrovod a.s. –
Slovenská republika, odštěpný závod



Vypracoval	Ing. Steinbauer	Zakázkové číslo	231 17 183
Prověřil	Ing. Steinbauer	Druh dokumentu	DPS
Schválil	Ing. Brůžek	Datum	12.2019
Stavba	V5534/5539 - výměna vedení	Měřítko	.
SO - PS	D. Elektrická část	Počet A4	.
Název	Montáž tlumičů vibrací KZL	Seznam dokumentace	ELV 52-18-688
		Archivní číslo	ELV 52-18-705 a
		Příloha	24

Transmission line V5534 / V5539 Portal-30 and 64-Portal

2S 2 / 24(M167/R91-228) -17,7mmØ

Port.VB - 30

Tower no.	Port.VB	77	1	2	3	4	5	6	7	8	9	10	14	T
Tower type	T	T	T	S	S	S	T	S	S	S	T	S	12	S
Span length [m]	59,2	63,1	249,0	203,2	220,1	147,7	337,9	264,5	362,1	273,6	259,8			
Every Day Stress [MPa]	14,80	5,10	49,40	49,40	49,40	49,40	69,50	69,50	69,50	69,50	70,70			

Tower no.	10	11	12	13	14	15	16	17	18	19	20	21	4	T
Tower type	S	S	S	S	S	S	T	S	S	S	S	S	19	S
Span length [m]	261,4	358,0	229,7	198,9	250,1	271,5	250,2	285,9	272,7	289,0	265,7			
Every Day Stress [MPa]	70,70	70,70	70,70	70,70	70,70	70,70	50,70	50,70	50,70	50,70	50,70			

Tower no.	21	22	23	24	25	26	27	28	29	30	10	T
Tower type	S	S	T	S	S	S	S	S	T	T	12	S
Span length [m]	239,4	245,9	210,9	290,7	218,1	355,2	191,8	304,9	252,3			
Every Day Stress [MPa]	50,70	50,70	56,10	56,10	56,10	56,10	56,10	56,10	60,20			

Damper B853002A03 (Tension tower): 28 pieces
 Damper B161003A05 (Suspension tower): 43 pieces

T Tension tower
S Suspension tower

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 03.12.2019

Transmission line V5534 / V5539 Portal-30 and 64-Portal

2S 2 / 24(M167/R91-228) -17,7mmØ

64 - Portal

Tower no.	64	65	66	67	68	69	70	71	72	73	74	75	10	T
Tower type	T	S	S	S	T	S	S	S	S	S	T	S	16	S
Span length [m]	261,1	295,1	312,7	287,7	157,9	231,1	219,9	255,7	271,1	343,1	348,0			
Every Day Stress [MPa]	42,30	42,30	42,30	42,30	47,20	47,20	47,20	47,20	47,20	47,20	51,10			

Tower no.	75	76	77	78	79	80	81	82	83	84	85	Port.VM	8	T
Tower type	S	S	S	S	S	S	S	T	S	S	T	T	14	S
Span length [m]	287,7	260,6	315,7	241,4	251,4	285,0	254,5	191,6	179,2	109,9	50,0			
Every Day Stress [MPa]	51,10	51,10	51,10	51,10	51,10	51,10	51,10	50,70	50,70	50,70	7,20			

Damper B853002A03 (Tension tower): 18 pieces
 Damper B161003A05 (Suspension tower): 30 pieces

T Tension tower
 S Suspension tower

damper total

Damper B853002A03 (Tension tower): 46 pieces
 Damper B161003A05 (Suspension tower): 73 pieces

T Tension tower
 S Suspension tower

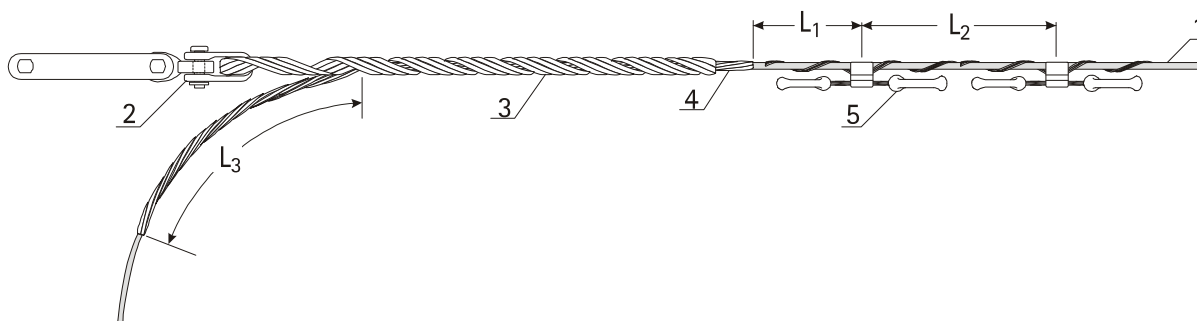
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 03.12.2019

OPGW : **2S 2 / 24(M167/R91-228) -17,7mmØ**
 Customer : **Elektrovod a.s.**
 Project : **Transmission line V5534 / V5539 Towerno.**
Portal - 30 and 64 - Portal
 Conductor self damping : **Estimated on basis of similar OPGW's**
 Every Day Stress (EDS) : **≤ 71 MPa (for 10 °C)**

Study:
2019_337

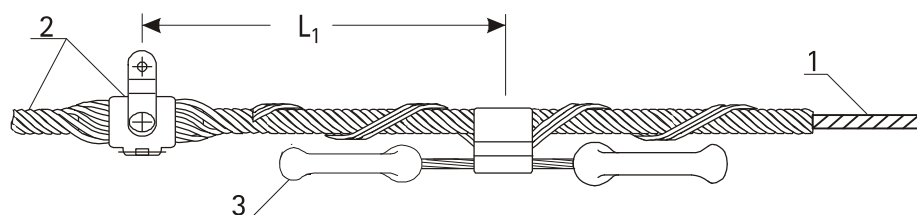
Date:
03.12.2019

Tension tower:



1.....	OPGW/ ADSS.....	
2.....	Thimble.....	F02686A02
3.....	Dead end.....	AW252152
4.....	Protection rods.....	RW193220lis
5.....	Vibration damper.....	B853002A03
	with helical rods.....	TW185043
		$L_1 \approx 0,5 \text{ m}$
		$L_2 = 0,6 \text{ m}$
		$L_3 \approx 0,4 \text{ m}$

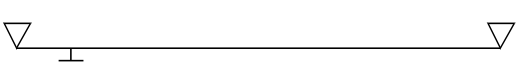
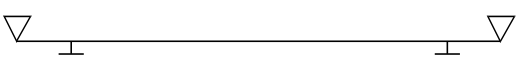
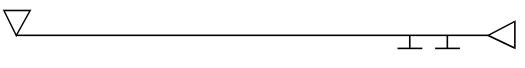
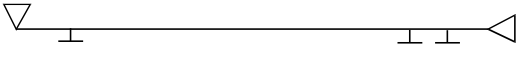
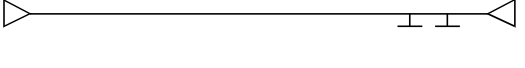

Suspension tower:






1.....	OPGW/ ADSS.....	
2.....	Amour grip suspension.	LTA179200/6lis
3.....	Vibration damper.....	B161003A05
	with helical rods.....	TW310062
		$L_1 = 0,6 \text{ m}$

The damper locations are only valid for the damper type numbers shown in the drawing. They are not transferrable to other damper types. Ignoring this warning may cause damage of the cable or the damper.

OPGW : **2S 2 / 24(M167/R91-228) -17,7mmØ** Study: **2019_337**
 Customer : **Elektrovod a.s.**
 Project : **Transmission line V5534 / V5539 Towerno.**
Portal - 30 and 64 - Portal
 Conductor self damping : **Estimated on basis of similar OPGW's** Date: **03.12.2019**
 Every Day Stress (EDS) : **≤ 71 MPa (for 10 °C)**

		max. span length	Damper left	Damper right
	S - S	< 200 m	type 1	-----
	S - S	200 – 363 m	type 1	type 1
	S - T	< 200 m	-----	type 2
	S - T	200 – 363 m	type 1	type 2
	T - T	< 200 m	-----	type 2
	T - T	200 – 363 m	type 2	type 2

Symbols:  suspension (S)  tension (T)  vibration damper

type 1: B853002A03

type 2: B161003A05

The damper locations are only valid for the damper type numbers shown in the drawing. They are not transferrable to other damper types. Ignoring this warning may cause damage of the cable or the damper.

Transmission line V5534 / V5539 Tower no. 41 - 64

3S 2 / 24(M272/R130-642) -22,0mmØ

Tower no.	41	42	43	44	45	46	47	48	49	50	51	52	36	T
Tower type	T	T	T	T	T	T	T	T	T	T	T	T	0	S
Span length [m]	275,1	328,9	277,7	340,0	116,5	208,8	209,6	171,7	253,3	308,2	264,9			
Every Day Stress [MPa]	30,10	32,20	33,20	31,80	17,80	44,90	32,90	37,50	31,70	29,30	30,00			

Tower no.	52	53	54	55	56	57	58	59	60	61	62	63	34	T
Tower type	T	T	T	T	T	T	T	T	T	T	T	T	0	S
Span length [m]	155,8	341,3	240,9	156,4	212,0	304,3	232,1	328,1	308,0	240,4	168,3			
Every Day Stress [MPa]	39,70	35,00	37,60	54,20	40,30	34,80	39,10	35,90	34,80	38,40	50,50			

Tower no.	63	64	4	T
Tower type	T	T	0	S
Span length [m]	226,5			
Every Day Stress [MPa]	44,10			

Damper B161002A02 (Tension tower): 74 pieces
 Damper B161002A07 (Suspension tower): 0 pieces

T Tension tower
S Suspension tower

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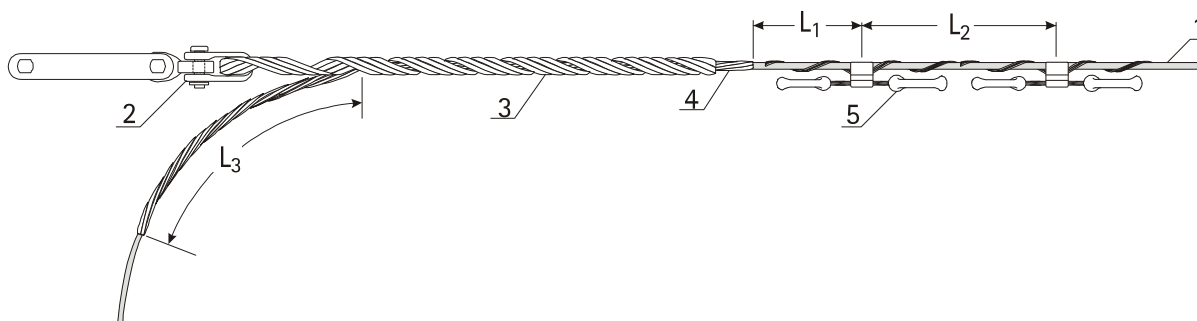
OPGW : **3S 2 / 24(M272/R130-642) -22,0mmØ**
 Customer : **Elektrovod, a.s.**
 Project : **Transmission line V5534 / V5539**
Towerno. 41 - 64

Study:
2019_338

Conductor self damping : **Estimated on basis of similar OPGW's**
 Every Day Stress (EDS) : **≤ 54,2 MPa (for 10 °C)**

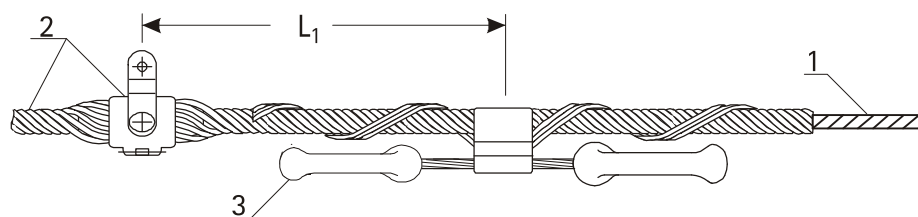
Date:
03.12.2019

Tension tower:



1.....	OPGW/ ADSS.....	
2.....	Thimble.....	F03246A02
3.....	Dead end.....	AW326222s
4.....	Protection rods.....	RW225310lis
5.....	Vibration damper.....	B161002A02
	with helical rods.....	TW226062
		$L_1 \approx 0,5 \text{ m}$
		$L_2 = 0,7 \text{ m}$
		$L_3 \approx 0,4 \text{ m}$

Suspension tower:



1.....	OPGW/ ADSS.....	
2.....	Amour grip suspension.	LTA2222007+11lis
3.....	Vibration damper.....	B161002A07
	with helical rods.....	TW370062
		$L_1 = 0,7 \text{ m}$

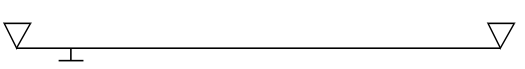
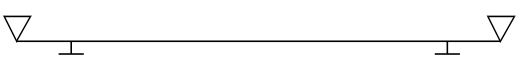
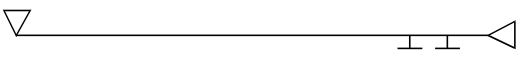
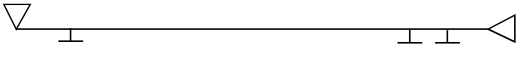
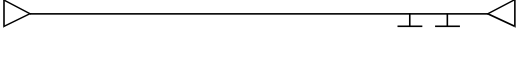

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
OPGW : **3S 2 / 24(M272/R130-642) -22,0mmØ**
 Customer : **Elektrovod, a.s.**
 Project : **Transmission line V5534 / V5539**
Towerno. 41 - 64

Study:
2019_338

Conductor self damping : **Estimated on basis of similar OPGW's**
 Every Day Stress (EDS) : **≤ 54,2 MPa (for 10 °C)**

Date:
03.12.2019

		max. span length	Damper left	Damper right
	S - S	< 225 m	type 1	-----
	S - S	225 - 342 m	type 1	type 1
	S - T	< 225 m	-----	type 2
	S - T	225 - 342 m	type 1	type 2
	T - T	< 225 m	-----	type 2
	T - T	225 - 342 m	type 2	type 2

Symbols:  suspension (S)  tension (T)  vibration damper

type 1: B161002A07

type 2: B161002A05

The damper locations are only valid for the damper type numbers shown in the drawing. They are not transferrable to other damper types. Ignoring this warning may cause damage of the cable or the damper.