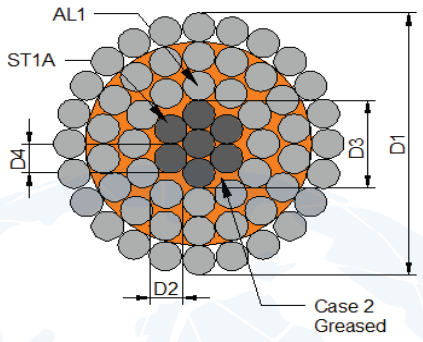
HASÇELİK KABLO	Date:	15.10.2020
	Specification No:	ACSRC254AL7STW/FBA/02
	Revision no/Date:	01/10.20
	Number of pages:	1/2

TECHNICAL SPECIFICATION
CONDUCTORS FOR OVERHEAD LINES- ROUND WIRE CONCENTRIC LAY STRANDED CONDUCTORS

	Technical Description	Units	Guaranteed Characteristics	
1.	**General Data**			
	a)Manufacturer		HASÇELİK KABLO	
	b)Conductor type		Aluminum Conductor Steel Reinforced	
	c)Conductor coding		ACSR 490/65	
	d)Aplied Standards		EN 50182	
	e)SAP Product Number		-	
2.	**Technical Drawing:**			
				
3.	**Construction Data / Layers of Conductor:**	**Units**	**Guaranteed Characteristics**	
	Number of wires			
	a)Steel	pcs.	7	
	a.1) Lay ratio		Number of wires	Lay ratio of layer (min.-max.)
	Center		1	-
	Layer 1		6	16-26
	b)Aluminum	pcs.	54	
	b.1) Lay ratio		Number of wires	Lay ratio of layer (min.-max.)
	Layer 2		12	10-16
	Layer 3		18	10-16
	Layer 4		24	10-14
	Nominal diameter of wires			
	a)Steel wires (D4)	mm	3,40	
	b)Aluminum wires (D2)	mm	3,40	
4.	**Constructional and dimensional details**	**Units**	**Guaranteed Characteristics**	
4.1	**Aluminum part (AL1)**			
	a)Number of wires	pcs.	54	
	b)Nominal diameter of wires	mm	3,40	
	c)Nominal section area of aluminum part	mm^2	490,28	
	d)Tensile strength			
	1)Before stranding (min.)	N/mm^2	165	
	2)After stranding (min.)	N/mm^2	157	
	e)Density at 20 C°	kg/dm^3	2,703	
	f)Coefficient of linear expansion	K^{-1}	23×10^{-6}	
	g)Max. Resistivity at 20 C°	nΩm	28,264	
	h)Temperature coefficient		0,00403	
4.2	**Zinc-Coated Steel part (ST 1A)**			
	a)Number of wires	pcs.	7	
	b)Nominal diameter of wires	mm	3,40	
	c)Nominal diameter of steel part (D3)	mm	10,20	
	d)Nominal section area of steel part	mm^2	63,55	
	e)Tensile strength			
	1)Tension at 1% elongation (min.)	N/mm^2	1045	
	2)Before stranding (min.)	N/mm^2	1300	
	3)After stranding (min.)	N/mm^2	1235	
	4)elongation in % on breaking	%	3,5	
	f)Mass of zinc	gr/m^2	245	
	g)Density at 20 C°	kg/dm^3	7,78	
	h)Coefficient of linear expansion	K^{-1}	$11,5 \times 10^{-6}$	
	i)Max. Resistivity at 20 C°	nΩm	192	
4.3	**Conductor**			
	a)Nominal Diameter of conductor (D1)	mm	30,6	
	b)Nominal section area of conductor	mm^2	553,83	
	c)Grease application		Case 2 (All the conductor is greased except the outer layer)	
	d)Aluminum to steel ratio		7,7	
	e)Conductor mass per unit length (approx.)-without grease	kg/km	1852,86	
	f)Grease mass per unit length (approx.)	kg/km	75,83	
	g)Direction of lay of the external layer		Z	
	h)Conductor rated tensile strength	kN	150,81	
	i)Conductor rated tensile strength	kgf	15377,9	
	j)Modulus of Elasticity (E-Modulus)	kN/mm^2	73,3	
	k)Thermal Elongation Coefficient	10-6/°C	19,3	

HASÇELİK KABLO	Date:	15.10.2020
	Specification No:	ACSRC254AL7STW/FBA/02
	Revision no/Date:	01/10.20
	Number of pages:	2/2

	l)Permissible Maximum Working Stress (%40 RTS)	N/mm²	108,9
	m)Everyday Stress (EDS) (20% RTS)	N/mm²	54,5
	n)Ultimate Exceptional Stress (%70 RTS)	N/mm²	190,6
	o)Minimum Bending Radius Installation (15XD1)	mm	459
	p)Minimum Bending Radius Operation (30XD1)	mm	918
	r)Geometric mean radius	m	0,0124
5.	**Temperature Range**	**Units**	**Guaranteed Characteristics**
	a)Installation	C°	-10 C° ~ +50 C°
	b)Transportation and Operation	C°	-40 C°~ +80 C°
6.	**Electrical Technical Data Sheet**	**Units**	**Guaranteed Characteristics**
	a)Maximum DC resistance of a conductor at 20 C°	Ω/km	0,0590
	b)Maximum AC resistance of a conductor at 25 C°	Ω/km	0,0604
	c)Maximum AC resistance of a conductor at 75 C°	Ω/km	0,0723
	d)Maximum conductor temperature (Normal operation)	C°	80
	e)Maximum conductor temperature (Short-circuit condition)	C°	200
	f)Current Carrying Capacity*	A	1066
	*Assumed values for calculation of current carrying capacity:		
	1)Solar Radiation	W/m²	900
	2)Wind Velocity	m/s	0,6
	3)Maximum conductor temperature	C°	80
	4)Ambient temperature	C°	30
	g)Short-circuit current** (1 second)	kA	52,3
	h)Short circuit current capacity	kA²s	2731,1
	**Assumed values for calculation of short-circuit current:		
	1)Specific conductivity of aluminum at 20 °C	1/(Ωm)	35,38
	2)Specific conductivity of steel at 20 °C	1/(Ωm)	5,208
	3)Temperature coefficient of aluminum	1/K	0,00403
	4)Temperature coefficient of steel	1/K	0,0045
	5)Specific thermal capacity of aluminum	J/(kg K)	0,91
	6)Specific thermal capacity of steel	J/(kg K)	0,48
	7)Conductor temperature of the beginning of a short-circuit	C°	40
	8)Conductor temperature at the end of a short-circuit	C°	200
	i)Total heat capacity of conductor	(J / m C°)	1531
	j)Inductive reactance	Ω/km	0,200
	k)Capacitive reactance	MΩ.km	0,170
7.	**Drum Labeling**		
	The following information to be attached to the outside of both flanges of each drum;		
	a)Name of Manufacturer		
	b) Year of Manufacture		
	c) Drum Number		
	d) Cable Type		
	e) Length		
	f) Net Weight		
	g) Gross Weight		