MKM KABEL
PT Mega Kharisma Makmur

ACFR

ALUMINUM CONDUCTOR FIBER REINFORCED

THE MOST RELIABLE HTLS CONDUCTOR

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PT. Mega Kharisma Makmur (MKM KABEL) has successfully developed a highly innovative and reliable HTLS transmission conductor called ACFR (Alumunium Conductor Fiber Reinforced).

ACFR replaces the role of ordinary ACSR. It is the product of trapezoidal shape annealed alumunium wire with composite core called as CFCC (Carbon Fiber Composite Cable), patented and developed from Japan leading company, Tokyo Rope Mfg. Co., Ltd.

Quality Starts At The Core

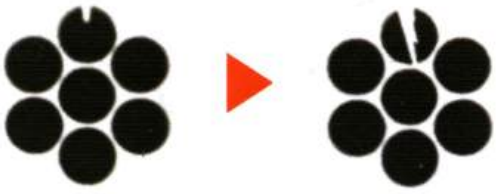
CFCC is produced by forming a compound of carbon fibers and thermosetting epoxy resin into a stranded shape. The resins used in CFCC are among the toughest available and can resist operation temperature up to 200° Celcius.

ACFR Conductor offers twice the capacity of conventional all-alumunium or steel-reinforced conductor with far less thermal sag that enables higher capacity powerlines to operate much more efficiently.

Benefits of ACFR :

- Thermal Expansion - minimal sag increase at high power transfer
- Stranded Core - flexible, robust and rugged. No single-point-of-failure
- Easy Installation like ACSR, using conventional methods
- Compression-type fittings - familiar hardware
- Designs for all loading conditions - long span, light load to heavy ice load
- Trapezoidal Wire (TW) available optimized design options
- Annealed (1350-O Temper) or Thermal-resistant or Hard-drawn Aluminum

Durability and Reliability of CFCC Composite Core :



If a crack starts — No cracks in other strands

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In corporation with:
TRI
TOKYO ROPE INTERNATIONAL

Mechanical & Electrical Properties :

#Application
Used for Overhead Power Transmission Lines

#Specification
SPLN T3.001-2-2: 2023

#Classification
Bare Conductor

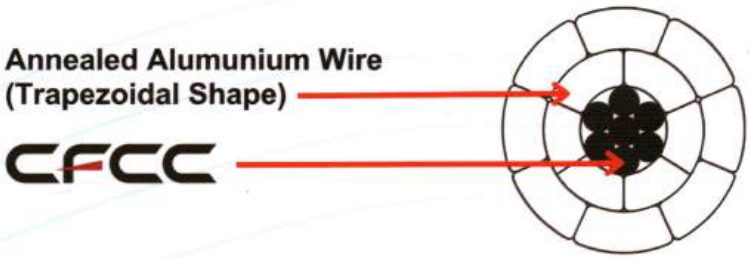
#Construction
> Conductor
Fully Annealed Alumunium 1350-H0,
Trapezoidal Shape

> Core
CFCC (Carbon Fiber Composite Cable)
By Tokyo Rope MFG. Co., Ltd (Japan Technology)

Code Name	Number of Alumunium Layer	No. of Alumunium Wire	Cross Sectional Area			Diameter		Approx. Weight	DC Resistance at 20 °C	Current Carrying Capacity *)	Conductor Breaking Load
			Total	Al	Core	Core	Conductor				
		(pcs)	(mm^2)	(mm^2)	(mm^2)	(mm)	(mm)	(Kg/Km)	(Ω/km)	(A)	(kN)
ACFR 150/30 - TIPE 1A	2	16	174,9	146,7	28,2	6,8	15,65	453	0,191	782	68,75
ACFR 215/30 - TIPE 1B	2	16	241,1	212,9	28,2	6,8	18,29	638	0,131	994	72,56
ACFR 315/40 - TIPE 2A	2	16	348,6	311,5	37,2	7,8	22,40	931	0,089	1.296	95,30
ACFR 365/40 - TIPE 2B	2	20	409,0	365,1	44,1	8,5	24,20	1.090	0,076	1.440	115,00
ACFR 415/40 - TIPE 2C	2	22	458,9	414,8	44,1	8,5	25,30	1.230	0,067	1.556	118,20
ACFR 515/55 - TIPE 2D	2	26	570,8	515,7	56,1	9,5	28,14	1.529	0,054	1.800	147,40
ACFR 550/55 - TIPE 2E	3	36	603,4	547,1	56,3	9,6	29,20	1.629	0,052	1.870	150,00

*) Condition of Current Carrying Capacity Calculation (Ref. IEC 61597)

- Conductivity of Alumunium — 63% IACS
- Ambient Temperature — 35°C
- Wind Velocity — 0.6 m/s
- Solar Radiation — 1000 W/m^2
- Solar Radiation Absorption — 0.9
- Emissivity Coefficient respect to Black Body — 0.9
- Continuous Operating Temperature — 175°C



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OUR EXPERIENCES

PT. Mega Kharisma Makmur (MKM KABEL) has **successfully completed** numerous electrical projects that have contributed to a more sustainable future.

Using modernized material science combined with sophisticated stranding technology, CFCC's characteristics far exceed conventional cables, such as high strength, high elasticity, light weight, high corrosion resistance, non-magnetism, and low linear expansion plus practical handling performance and flexibility.

Therefore, ACFR is the Most Reliable HTLS Conductor that has a proven track record, along with Successful Operation Letters from PT. PLN (Persero), making it the Best Solution for Reconductoring or New Transmission Line.

Tol Trans Sumatera
Medan - Sumatera Utara

PT. Amman Mineral
International Tbk
Nusa Tenggara Barat

Asam Asam Satui,
Kalimantan Selatan

Weleri-Kaliwungu
Jawa Tengah

Crossing Tower SUTT Mainroad
Pembangunan Tol Trans
Sumatera Utara – Medan

AMMAN 150/33KV
TRANSMISSION LINES
Nusa Tenggara Barat

Rekonduktoring Transmisi
150KV – Asam-Asam Satui,
Kalimantan Selatan

Rekonduktoring SUTT 150 KV
Weleri – Kaliwungu,
Jawa Tengah

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PT Mega Kharisma Makmur

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