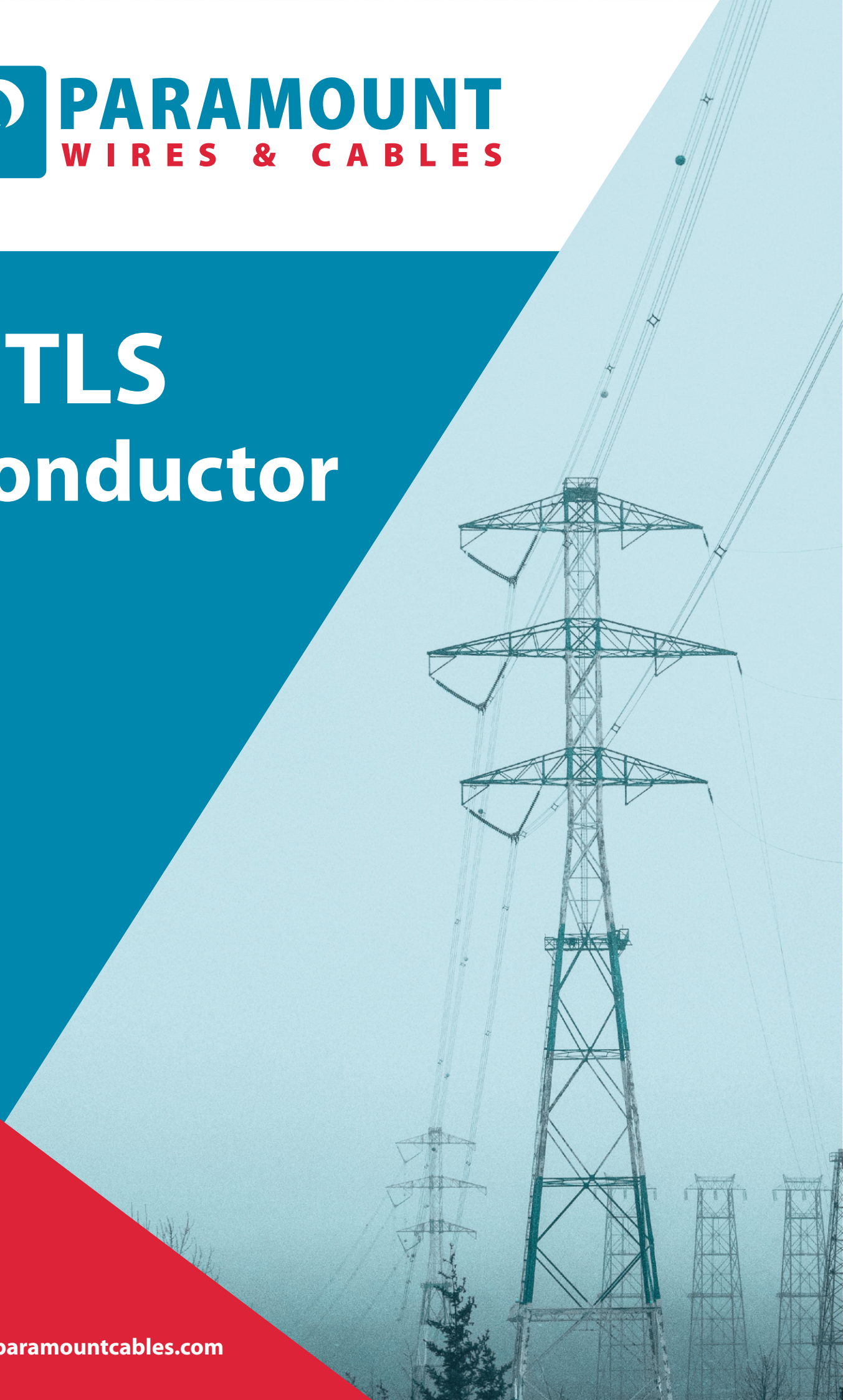
PARAMOUNT
WIRES & CABLES

HTLS Conductor



www.paramountcables.com

THE COMPANY

Paramount Cables

Engineering a vast array of conductors over decades

Paramount Communications Ltd. part of the Paramount group of companies, is one of India's leading wire & cable manufacturing companies.

Over six decades of operations, the group has widened its portfolio, building on a prestigious clientele that includes government, institutional and major private sector organizations, both national and international.

Focused on manufacturing excellence, technological advancement and customer satisfaction Paramount envisions pioneering the wire and cable industry in India. The company believes in empowering success stories across industries by meeting global benchmarks and providing quality focused solutions.

With a mission of continued success, Paramount Cables aims at emerging as a progressive company, catalyzing growth and reshaping horizons.

INDUSTRIES WE SERVE

- TELECOM
- RAILWAYS & METRO
- POWER
- STEEL & CEMENT
- OIL & GAS
- DEFENCE
- RETAIL
- INFRASTRUCTURE

HIGH TEMPERATURE LOW SAG CONDUCTORS

Rapid urbanization in big cities has led to a surge in electricity demand. As electricity becomes an essential part of daily life, existing overhead transmission lines, often built decades ago, struggle to meet the growing energy needs, which typically increase by 5% annually. Constructing new transmission towers requires significant land area. Therefore, an effective alternative to enhance transmission capacity is to upgrade existing overhead lines. By replacing the existing conductors with higher-capacity options, we can increase the power-carrying capacity of the lines without the need for extensive infrastructure expansion.

Different types of HTLS Conductors are used for voltage level up to 500 kV.

ADVANTAGES & BENEFITS OF HTLS CONDUCTOR

Increased Power Transmission Capacity: HTLS conductors carry more current at higher temperatures, boosting power transfer without requiring infrastructure upgrades.

Reduced Sag: These conductors minimize sag under high temperatures, maintaining safety clearances and improving line reliability.

Energy Efficiency: HTLS conductors reduce line losses, leading to more efficient power transmission and lower energy waste.

Durability and Longevity: They are highly resistant to mechanical stress and environmental conditions, reducing maintenance costs and extending their operational lifespan.

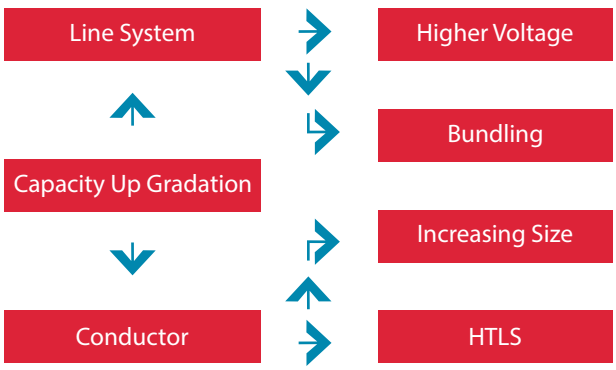
Flexibility for Upgrades: HTLS conductors enable easy upgrades of existing power lines, allowing capacity increases with minimal disruption and future-proofing the grid.

PRODUCT RESEARCH & DEVELOPMENT

Our Focus :
We have a qualified and experienced team for Research and Product Development to focus on developing new technology and new energy efficient products to meet the global Power Demand.

New Product Development	Hi-Temperature Conductors, Special Alloy conductors
Technology Adoption	New material development and adoption
In Process Efficiency Improvement	Continual Improvement on Process to attain world class Quality
T&D Solution	End to End T&D solutions to our customers for optimizing the project cost

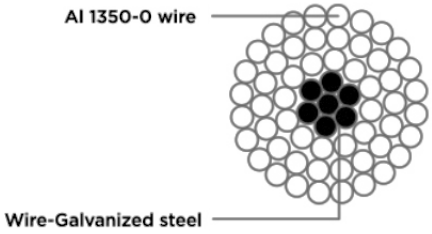
CAPACITY UP GRADATION



HTLS PRODUCTS

Aluminium Conductor Steel Supported (ACSS)

ACSS conductors are manufactured from Annealed Aluminium 1350 wires and an inner high tensile strength core of Galfan (Zn 5% Al Mischmetal) coated / Galvanized steel wires.



PRO'S

- Capable of operating up to 250°C.
- Low Loss due to Annealing of Aluminium.

BENEFITS

- Annealed Aluminium wire has a higher conductivity of 63% as against 61.2% and can operate continuously up to 250°C without any loss in strength.
- Mischmetal steel wire can operate continuously up to 250°C without any loss in strength.

CON'S

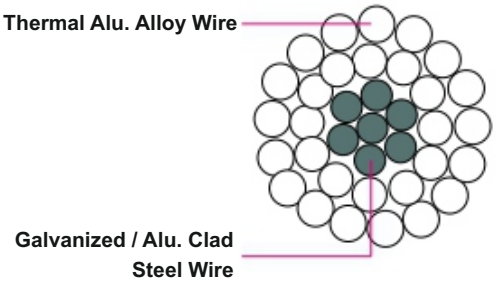
- SAG exceeds the conventional Conductor Sag at the maximum Operating temperature of the conductor.

APPLICATION

- Mostly suitable for New Lines.

Thermal Resistant Aluminum Conductors Steel Reinforced (TACSR)

TACSR conductors are the conductors wherein the inner core is composed of galvanized steel and outer layers are composed of thermal-resistant aluminium alloy.



PRO'S

- 50% more-Power Transfer Capacity.

BENEFITS

- Mild Al-Zr (Aluminium Zirconium) Thermal alloy rods help in the conductor to work up to 150°C without reduction in strength.
- High Strength steel is used to reduce sag at elevated temperatures by increasing tension.

CON'S

- Higher sag than ACSR.

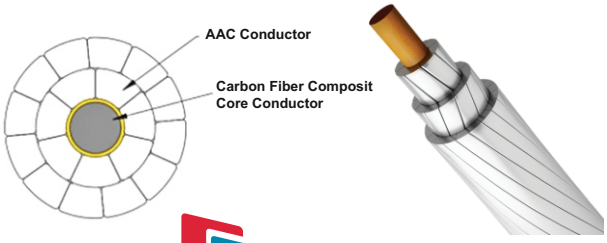
APPLICATION

- Suitable for New Lines.

HTLS PRODUCTS

Aluminium Conductor EnergyCore Reinforced (ACER)

Non Metallic Carbon Composite (Solid Core Conductor consists of carbon composite) core which is wrapped with trapezoidal shaped Aluminium strands. The Strength Structural core carries most of the conductor's mechanical load, while the fully annealed Aluminium strands carry the conductor's electrical current.



PRO'S

- 40% reduction of Line loss.
- Low weight and Low SAG.

BENEFITS

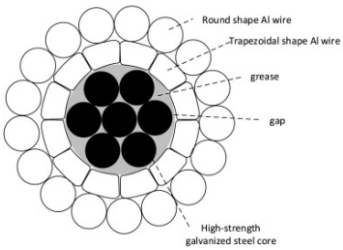
- With 30% more annealed aluminium in a trapezoidal configuration, ACER conductor of the same diameter as ACSR can double the current (ampacity) rating; Higher operating efficiency by reducing losses, there by resulting in more power delivered and lower power generation cost.
- Minimum Thermal Expansion and good compatibility of Composite Core.

APPLICATION

- Suitable for Reconductoring, Renewable, New lines.

Gap-Type Super Thermal Resistant Aluminium Alloy Conductor Steel Reinforced (Gap-Type Conductor)

TAL Grade Aluminum-Zirconium wires, having a small gap between the Steel core & thermal-resistant aluminum alloy layer. Additional corrosion protection is achieved as Heat Resistant Grease is applied in Between GAP.



PRO'S

- Double the current carrying capacity for the same size conductor.
- No modification or reinforcement required for existing towers.

BENEFITS

- Double the current carrying capacity for the same size conductor.
- Maintaining the mechanical strength of the conductor with continuous operating temperature up to 210°C.

CON'S

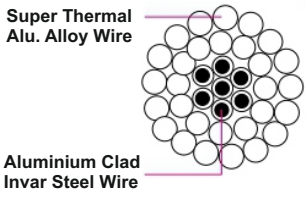
- High losses & Higher Execution time.

APPLICATION

- Suitable for reconductoring.

Super Thermal Aluminium Conductor Invar Reinforced (STACIR)

This low sag conductor is manufactured from Al-Zr (Aluminium Zirconium) alloy rods. The conductor comprises of an strong inner Invar steel core and concentrically arranged STAL strands forming the outer layer of conductors.



PRO'S

- No modification/reinforcement is required to the existing towers.
- 100% more — Power Transfer Capacity.

BENEFITS

- Excellent Sag properties due to INVAR core which has a Linear expansion of 3.7 x 10^{-6}/°C as against 11.5 x 10^{-6}/°C.
- Al-Zr (Aluminium Zirconium) Super thermal alloy rods help in the conductor to work upto 210°C.

CON'S

- High losses.

APPLICATION

- Suitable for reconductoring.

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