Sterlite

ACSR

CONDUCTOR CATALOGUE

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ACSR BITTERN

OVERVIEW

ACSR Bittern is a durable, cost-effective conductor combining aluminum's high conductivity with steel's strength, ensuring reliable performance for long-distance power transmission.

APPLICATIONS

Rural Electrification

Medium, High and Extra High Voltage Transmission Lines

FEATURES & BENEFITS

High Tensile Strength

Steel core provides excellent mechanical strength for reliable performance

Superior Conductivity

Aluminum strands enable efficient, low-loss power transmission

Cost-Effective Solution

Delivers dependable performance at lower cost than advanced conductors

High Strength-to-Weight Ratio

Balances durability and performance with manageable weight

Reduced Corona Losses

Larger diameter minimizes electrical losses from corona discharge

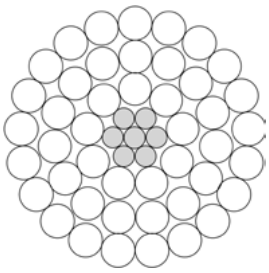
Temperature Limitation

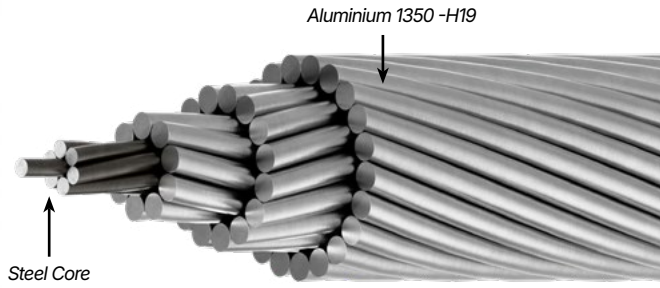
Operates up to 85°C, limiting use in high-temperature lines

Heavy & Less Flexible

Steel core adds weight, causing higher sag and tougher handling

CROSS SECTION





APPLICABLE STANDARDS

B230 · B232 · B498

IEC 61089

TECHNICAL SPECIFICATIONS

Conductor	ACSR BITTERN (1272 Kcmil)	
Total Sectional Area	688.9 mm^2	1.0678 in^2
Aluminum sectional area	644.4 mm^2	0.9988 in^2
Steel Core sectional area	44.58 mm^2	0.0690 in^2
Construction/Stranding details		
No.of Aluminum wire & diameter	45 Nos. x 4.27mm	45 Nos. x 0.1681 in.
No. of Steel core wire & diameter	7 × 2.85 mm	7× 0.1121 in.
Overall diameter	34.16 mm	1.345 in.
Weight	2.131 kg/m	1.432 lb/ft
Rated strength of Conductor	151.68 kN	34099 lbs
DC Resistance @ 20°C (68°F)	0.0448 Ω/Km	0.0721 Ω/mile
Current Capacity @ 75°C (167°F)	693 A	
Current Capacity @ 85°C (185°F)	893 A	
Max. Operating Temperature	85°C	185°F
Direction of lay	Right hand	
Coefficient of thermal expansion	20.73 × 10^{-6} /°C	11.52 × 10^{-6} /°F
Final modulus of elasticity	64.1 Gpa	9294 ksi

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ACSR BLUEBIRD (NON-SPECULAR)

OVERVIEW

ACSR Bluebird (Non-Specular) is a high-strength, cost-effective conductor combining aluminum's conductivity with steel's durability, ideal for high-voltage lines in harsh environments.

APPLICATIONS

High and Extra High Voltage Transmission Lines

FEATURES & BENEFITS

High Tensile Strength

Steel core ensures exceptional strength and reliability in harsh conditions

Superior Conductivity

Aluminum strands deliver efficient, low-loss power transmission over distance

Cost-Effective Solution

Provides dependable performance at lower cost than advanced conductors

High Strength-to-Weight Ratio

Combines robust strength with manageable weight for stability

Reduced Corona Losses

Larger diameter minimizes corona discharge and power loss

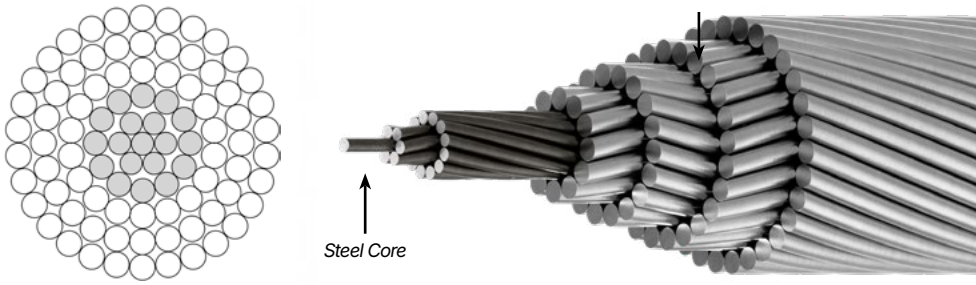
Non-Specular Finish

Dull surface improves emissivity and blends seamlessly with surroundings

Temperature & Handling Limits

Operates up to 85°C; heavier core increases handling complexity

CROSS SECTION



APPLICABLE STANDARDS

ASTM B230 · B232 · B498 · B979

IEC IEC 61089

TECHNICAL SPECIFICATIONS

Conductor	ACSR BLUEBIRD (NON-SPECULAR) (2156 kcmil)	
Total Sectional Area	1181.2 mm^2	1.8309 in^2
Aluminum sectional area	1092.32 mm^2	1.6931 in^2
Steel Core sectional area	88.90 mm^2	0.1378 in^2
Construction/Stranding details		
No.of Aluminum wire & diameter	84 Nos. x 4.07mm	84 Nos. x 0.1602 in.
No. of Steel core wire & diameter	19 × 2.44 mm	19× 0.0961 in.
Overall diameter	44.75 mm	1.762 in.
Weight	3.7322 kg/m	2.5079 lb/ft
Rated strength of conductor	268.32 kN	60300 lbs
DC Resistance @ 20°C (68°F)	0.0262 Ω/Km	0.0423 Ω/mile
Current Capacity @ 75°C (167°F)	1028 A	
Current Capacity @ 85°C (185°F)	1329 A	
Max. Operating Temperature	85°C	185°F
Direction of lay	Right hand	
Coeffiicient of thermal expansion	20.43 × 10^{-6} /°C	11.35 × 10^{-6} /°F
Final modulus of elasticity	65.5 Gpa	9503 ksi

Note: Current capacity based on referenced conductor temp., 0.56 m/s (1.84 ft/s) wind, 0 m (0 ft) Elevation, 0.68 emissivity, 0.80 absorptivity, 45°C (113°F) Ambient temp., 1045 W/m^2 (97.08 w/ft^2) solar radiation.

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ACSR DRAKE

OVERVIEW

ACSR Drake is a high-strength conductor combining aluminum's conductivity with a steel core, delivering reliable, efficient performance for critical high-tension transmission lines.

APPLICATIONS

- Renewable Energy Transmission
- Medium, High and Extra High Voltage Transmission
- Substations and Industrial Power Systems

FEATURES & BENEFITS

High Tensile Strength

Steel core ensures exceptional strength and reliability in harsh conditions

Superior Conductivity

Aluminum strands deliver efficient, low-loss power transmission over distance

Lightweight & Long-Span Design

Balanced strength-to-weight ratio reduces sag and tower requirements

Reduced Corona Losses

Larger diameter minimizes corona discharge and power loss

Temperature Limitation

Operates up to 85°C, restricting high-temperature applications

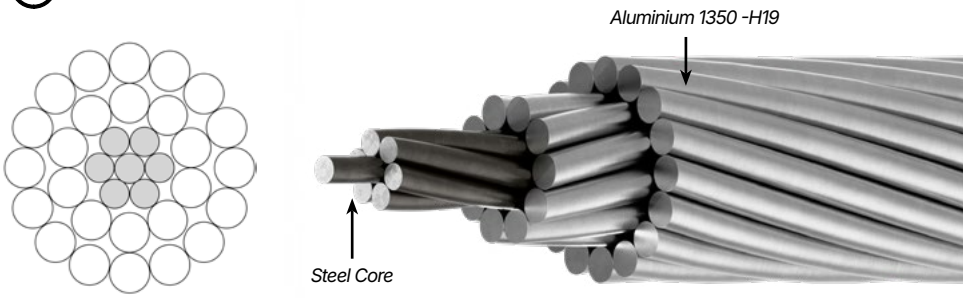
Corrosion Risks

Steel core prone to galvanic corrosion in humid or polluted conditions

Limited Flexibility

Heavier, less flexible design requires careful handling during installation

CROSS SECTION



APPLICABLE STANDARDS

ASTM B230 · B232 · B498

IEC IEC 62641 · IEC 63248

TECHNICAL SPECIFICATIONS

Conductor	ACSR DRAKE (795 kcmil)	
Total Sectional Area	468.6 mm^2	0.7263 in^2
Aluminum sectional area	403.06 mm^2	0.6247 in^2
Steel Core sectional area	65.61 mm^2	0.1016 in^2
Construction/Stranding details		
No.of Aluminum wire & diameter	26 Nos. x 4.44mm	26 Nos. x 0.1749in.
No. of Steel core wire & diameter	7 × 3.45mm	7× 0.1360 in
Overall diameter	28.14 mm	1.108 in.
Weight	1.626 kg/m	1.093 lb/ft
Rated strength of conductor	140.12 kN	31500 lbs
DC Resistance @ 20°C (68°F)	0.0716 Ω/Km	0.1152 Ω/mile
Current Capacity @ 75°C (167°F)	541 A	
Current Capacity @ 85°C (185°F)	686 A	
Max. Operating Temperature	85°C	185°F
Direction of lay	Right hand	
Coefficient of thermal expansion	18.9 × 10^{-6}/°C	10.5 × 10^{-6}/°F
Final modulus of elasticity	73.9 Gpa	10718 ksi

Note: Current capacity based on referenced conductor temp., 0.56 m/s (1.84 ft/s) wind, 0 m (0 ft) Elevation, 0.45 emissivity, 0.80 absorptivity, 45°C (113°F) Ambient temp., 1045 W/m^2 (97.08 w/ft^2) solar radiation.

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ACSR LAPWING (NON-SPECULAR)

OVERVIEW

ACSR Lapwing is a reliable, cost-effective conductor combining aluminum's conductivity with steel's strength, ideal for long-term power transmission and distribution applications.

APPLICATIONS

Rural Electrification

Medium, High and Extra High Voltage Transmission Lines

FEATURES & BENEFITS

High Tensile Strength

Steel core ensures exceptional strength and reliability in harsh conditions

Superior Conductivity

Aluminum strands deliver efficient, low-loss power transmission over distance

Cost-Effective Design

Economical solution compared to other conductors of similar size

Reduced Corona Losses

Larger diameter minimizes corona discharge and power loss

Temperature Limitation

Operates up to 85°C, restricting high-temperature applications

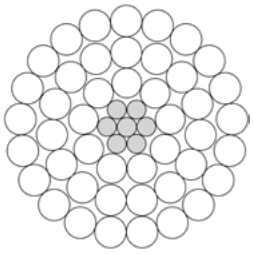
Non-Specular Finish

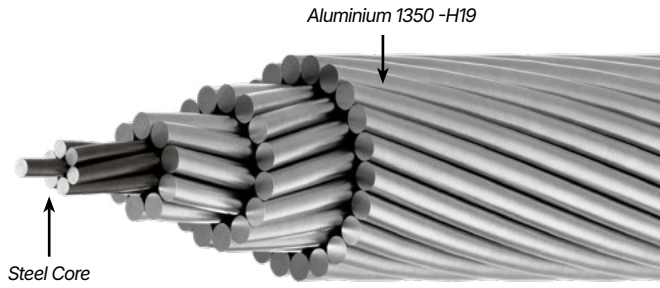
Dull surface blends with surroundings and improves visual aesthetics

Heavy & Difficult Handling

Steel core weight increases installation complexity and handling challenges

CROSS SECTION





APPLICABLE STANDARDS

B230 · B232 · B498 · B979

IEC 61089

TECHNICAL SPECIFICATIONS

Conductor	ACSR LAPWING (NON-SPECULAR) (1590 kcmil)	
Total Sectional Area	861.6 mm^2	1.3355 in^2
Aluminum sectional area	805.93 mm^2	1.2492 in^2
Steel Core sectional area	55.67 mm^2	0.0863 in^2
Construction/Stranding details		
No.of Aluminum wire & diameter	45 Nos. x 4.78mm	45 Nos. x 0.1880 in.
No. of Steel core wire & diameter	7 × 3.18mm	7× 0.1253 in.
Overall diameter	38.20 mm	1.504 in.
Weight	2.664 kg/m	1.7903 lb/ft
Rated strength	187.78 kN	42214 lbs
DC Resistance @ 20°C (68°F)	0.0355 Ω/Km	0.0572 Ω/mile
Current Capacity @ 75°C (167°F)	874 A	
Current Capacity @ 85°C (185°F)	1115 A	
Max. Operating Temperature	85°C	185°F
Direction of lay	Right hand	
Coefficient of thermal expansion	20.7 × 10^{-6} /°C	11.5 × 10^{-6} /°F
Final modulus of elasticity	64 Gpa	9289 ksi

Note: Current capacity based on referenced conductor temp., 0.56 m/s (1.84 ft/s) wind, 0 m (0 ft) Elevation, 0.68 emissivity, 0.80 absorptivity, 45°C (113°F) Ambient temp., 1045 W/m^2 (97.08 w/ft^2) solar radiation.

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ACSR TW ROOK

OVERVIEW

ACSR/TW Rook is a trapezoidal-wire conductor combining aluminum and steel, offering higher current capacity and compact design while maintaining the same overall diameter as conventional round conductors.

APPLICATIONS

- Renewable Energy Transmission
- Medium, High and Extra High Voltage Transmission
- Rural Electrification

FEATURES & BENEFITS

Improved Efficiency

TW shape increases current-carrying capacity over round conductors.

Dependable & Economical

Recognized for reliability, cost-effectiveness, and favorable strength-to-weight ratio.

Enhanced Flexibility

Reduced diameter lessens ice and wind loading impact on conductors

Weather-Resistant Performance

Trapezoidal design improves performance under adverse environmental conditions

Short-Time Operation

Emergency operating temperature up to 100°C for limited duration

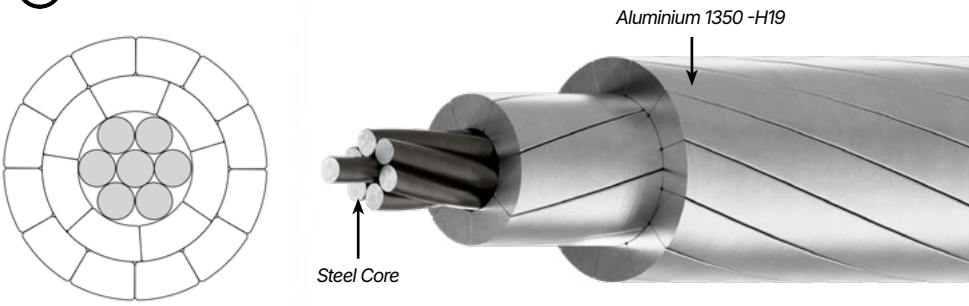
Temperature Limitation

Maximum continuous operating temperature 85°C restricts prolonged high-heat use

Higher Installation Complexity

Unique trapezoidal shape requires specialized tools and handling during installation

CROSS SECTION



APPLICABLE STANDARDS

B230 · B498 · B779

TECHNICAL SPECIFICATIONS

Conductor/Code	ACSR/TW ROOK (636 kcmil)	
Total Sectional Area	364.1 mm^2	0.5643 in^2
Aluminum sectional area	322.3 mm^2	0.4995 in^2
Steel Core sectional area	41.8 mm^2	0.06479 in^2
Construction/Stranding details		
No.of Aluminum wire & diameter	19TW Nos. x Eq. Dia.4.65mm	19TW Nos. x Eq. Dia 0.1830 in.
No. of Steel core wire & diameter	7 × 2.756mm	7× 0.1085 in.
Overall diameter	22.61 mm	0.890 in.
Weight	1.216 kg/m	0.8172 lb/ft
Rated strength of conductor	101.86 kN	22900 lbs
DC Resistance @ 20°C (68°F)	0.0879 Ω/Km	0.1415 Ω/mile
Current Capacity @ 75°C (167°F)	525 A	
Current Capacity @ 85°C (185°F)	633 A	
Max. Operating Temperature	85°C	185°F
Direction of lay	Right hand	
Coefficient of thermal expansion	19.44 × 10^{-6} /°C	10.8 × 10^{-6} /°F
Final modulus of elasticity	70.485 Gpa	10223 ksi

Note: Current capacity based on referenced conductor temp., 0.56 m/s (1.84 ft/s) wind, 0 m (0 ft) Elevation, 0.45 emissivity, 0.80 absorptivity, 45°C (113°F) Ambient temp., 1045 W/m^2 (97.08 w/ft^2) solar radiation.

Sterlite

Corporate Office

5th Floor, RMZ Infinity, Plot No. 15,
Udyog Vihar – IV, Gurugram - 122015,
Haryana, India

Manufacturing Units

Haridwar
Sector-5, Vardhman Industrial Estate,
Behind Patanjali Yogpeeth, Haridwar, Uttarakhand 249 405

Jharsuguda
At-Bhurkhamunda, PO - Kalimandir Road,
District - Jharsuguda, Odisha 768 202

Piparia
Survey NO.209, Phase -II, Piparia, Piparia
Industrial Estate, Silvassa, Maharashtra 396 230

Rakholi
Survey NO.99/2/22, & 23, Rakholi, Madhuban Dam
Road Rakholi, Silvassa, Maharashtra 396 230

For any queries or suggestions

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