



**PT. MAGNAKABEL NUSANTARA**  
**POWER YOUR WORLD**



**PT. MAGNAKABEL NUSANTARA**  
**POWER YOUR WORLD**

# PRODUCT **CATALOGUE**

 **DISTRIBUTION CABLES**

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# Introduction

## About Our Company

For over three decades, **PT. Magnakabel Nusantara** has held its place as a leading manufacturer and supplier of transmission conductors, power and distribution cables, building installation cables, and specialty cables for Indonesia's unique electrical infrastructure. In all its years of service, **PT. Magnakabel Nusantara** has showcased unwavering dedication, consistency, and commitment to service excellence. This devotion, grit, and tenacity saw us quickly climb the ranks as one of the most reputable electrical cable manufacturers registered in the selected provider list (DPT) at PT. Perusahaan Listrik Negara (Persero).



## Vision, Mission, Core Values

### Our Vision

To be a global sustainable company that drives communities by enabling access to energy and information.

### Our Mission

To provide our employees with an honest and wholesome work environment, where every employee individually and collectively, can dedicate themselves to providing our customers with high quality products, extraordinary service, and professional integrity.

### Our Core Values

Five principles beat at the heart of all we do:

- **M**utual Respect
- **A**daptability
- **G**rowth through Entrepreneurship
- **N**othing is Impossible
- **A**chievement through Excellence

**Our core values** These tenets allow us to do our best for the clients we serve.

## Certification

**PT. Magnakabel Nusantara's** unfaltering commitment, management, and performance swiftly earned us SPM Certification ISO 9001:2015, ISO 14001:2015, SMK3 and SNI. With these quality control certificates in tow, we continue to give our clients a reason to place their faith in us time after time.





**Bare Copper Conductor Hard (BCC-H)**  
**Bare Copper Conductor Half Hard (BCC-1/2H)**  
**Bare Copper Conductor Soft (BCC)**

Round Stranded Copper

### ■ Application

Grounding Wire.

### ■ Specification

- SPLN 41-4 : 1981 (Half Hard).
  - SPLN 41-5 : 1981 (Hard).
  - JIS C 3002 : 1984 (Soft).
- (Other specifications are available upon request).

### ■ Construction

- Solid or Stranded Bare Copper.



## BARE COPPER CONDUCTOR - HARD

### SPLN 41- 5 : 1981

| Cross Section Area | No. of Wires | Dia. of Wires | Overall Diameter Approx | Weight Approx | DC Resistance AT 20°C | Current Rating | Calculated breaking force |
|--------------------|--------------|---------------|-------------------------|---------------|-----------------------|----------------|---------------------------|
| Nominal            |              |               |                         |               |                       |                |                           |
| mm <sup>2</sup>    | n            | mm            | mm                      | kg/km         | Ω/km                  | A              | kg                        |
| 6                  | 1            | 2.80          | 2.80                    | 55            | 2.8994                | 71             | 196                       |
| 10                 | 1            | 3.50          | 3.50                    | 86            | 1.8565                | 90             | 300                       |
| 10                 | 7            | 1.35          | 4.05                    | 91            | 1.8181                | 90             | 329                       |
| 16                 | 7            | 1.70          | 5.10                    | 144           | 1.1465                | 125            | 518                       |
| 25                 | 7            | 2.10          | 6.30                    | 220           | 0.7512                | 160            | 782                       |
| 35                 | 7            | 2.50          | 7.50                    | 312           | 0.5302                | 200            | 1,098                     |
| 50                 | 19           | 1.80          | 9.00                    | 438           | 0.3785                | 250            | 1,572                     |
| 70                 | 19           | 2.10          | 10.50                   | 597           | 0.2781                | 310            | 2,122                     |
| 95                 | 19           | 2.50          | 12.50                   | 846           | 0.1963                | 380            | 2,980                     |
| 120                | 19           | 2.80          | 14.00                   | 1,061         | 0.1565                | 440            | 3,718                     |
| 150                | 37           | 2.25          | 15.75                   | 1,334         | 0.1244                | 510            | 4,728                     |
| 185                | 37           | 2.50          | 17.50                   | 1,647         | 0.1008                | 585            | 5,804                     |
| 240                | 61           | 2.25          | 20.25                   | 2,199         | 0.0755                | 700            | 7,795                     |
| 300                | 61           | 2.50          | 22.50                   | 2,715         | 0.0611                | 800            | 9,569                     |
| 400                | 61           | 2.89          | 26.01                   | 3,628         | 0.0458                | 960            | 12,676                    |
| 500                | 61           | 3.23          | 29.07                   | 4,532         | 0.0367                | 1,110          | 15,752                    |

Applications : Used for overhead power transmission purpose, medium tension . Overhead system and distribution network

## BARE COPPER CONDUCTOR - HALF HARD

### SPLN 41- 4 : 1981

| Cross Section Area | No. of Wires | Dia. of Wires | Overall Diameter Approx | Weight Approx | DC Resistance AT 20°C | Current Rating | Calculated breaking force |
|--------------------|--------------|---------------|-------------------------|---------------|-----------------------|----------------|---------------------------|
| Nominal            |              |               |                         |               |                       |                |                           |
| mm <sup>2</sup>    | n            | mm            | mm                      | kg/km         | Ω/km                  | A              | kg                        |
| 6                  | 1            | 2.80          | 2.80                    | 55            | 2.896                 | 71             | 196                       |
| 10                 | 1            | 3.50          | 3.50                    | 86            | 1.8545                | 90             | 300                       |
| 10                 | 7            | 1.35          | 4.05                    | 91            | 1.8160                | 90             | 329                       |
| 16                 | 7            | 1.70          | 5.10                    | 144           | 1.1452                | 125            | 518                       |
| 25                 | 7            | 2.10          | 6.30                    | 220           | 0.7504                | 160            | 782                       |
| 35                 | 7            | 2.50          | 7.50                    | 312           | 0.5296                | 200            | 1,098                     |
| 50                 | 19           | 1.80          | 9.00                    | 438           | 0.3781                | 250            | 1,572                     |
| 70                 | 19           | 2.10          | 10.50                   | 597           | 0.2778                | 310            | 2,122                     |
| 95                 | 19           | 2.50          | 12.50                   | 846           | 0.1961                | 380            | 2,980                     |
| 120                | 19           | 2.80          | 14.00                   | 1,061         | 0.1563                | 440            | 3,718                     |
| 150                | 37           | 2.25          | 15.75                   | 1,334         | 0.1243                | 510            | 4,728                     |
| 185                | 37           | 2.50          | 17.50                   | 1,647         | 0.1007                | 585            | 5,804                     |
| 240                | 61           | 2.25          | 20.25                   | 2,199         | 0.0754                | 700            | 7,795                     |
| 300                | 61           | 2.50          | 22.50                   | 2,715         | 0.0611                | 800            | 9,569                     |
| 400                | 61           | 2.89          | 26.01                   | 3,628         | 0.0457                | 960            | 12,676                    |
| 500                | 61           | 3.23          | 29.07                   | 4,532         | 0.0366                | 1,110          | 15,752                    |

Applications : Used for overhead power transmission purpose, medium tension . Overhead system and distribution network



## ANNEALED COPPER WIRE - SOFT

### JIS C 3102-1984

| Diameter        | Tolerance for Diameters | Conductivity (20°C) Min | Electric Resistance 20°C | Tensile Load Max. | Tensile Strength Max. | Elongation (gauge length 250mm) Min. | Approx. Weight of Conductor |
|-----------------|-------------------------|-------------------------|--------------------------|-------------------|-----------------------|--------------------------------------|-----------------------------|
| mm <sup>2</sup> | mm                      | %                       | ohm/km                   | kg                | kg/mm <sup>2</sup>    | %                                    | kg/km                       |
| 0.10            | ±0.008                  | 98.0                    | 2,240.0000               | -                 | -                     | 15                                   | 0.06982                     |
| 0.11            | ±0.008                  | 98.0                    | 1,851.0000               | -                 | -                     | 15                                   | 0.08448                     |
| 0.12            | ±0.008                  | 98.0                    | 1,556.0000               | -                 | -                     | 15                                   | 0.10050                     |
| 0.13            | ±0.008                  | 98.0                    | 1,326.0000               | -                 | -                     | 15                                   | 0.11800                     |
| 0.14            | ±0.008                  | 98.0                    | 1,143.0000               | -                 | -                     | 15                                   | 0.13680                     |
| 0.15            | ±0.008                  | 98.0                    | 995.7000                 | -                 | -                     | 15                                   | 0.15710                     |
| 0.16            | ±0.008                  | 98.0                    | 874.9000                 | -                 | -                     | 15                                   | 0.17880                     |
| 0.17            | ±0.008                  | 98.0                    | 775.0000                 | -                 | -                     | 15                                   | 0.20180                     |
| 0.18            | ±0.008                  | 98.0                    | 691.3000                 | -                 | -                     | 15                                   | 0.22630                     |
| 0.19            | ±0.008                  | 98.0                    | 620.6000                 | -                 | -                     | 15                                   | 0.25200                     |
| 0.20            | ±0.008                  | 98.0                    | 559.9000                 | -                 | -                     | 15                                   | 0.27930                     |
| 0.21            | ±0.008                  | 98.0                    | 507.9000                 | -                 | -                     | 15                                   | 0.30790                     |
| 0.22            | ±0.008                  | 98.0                    | 462.9000                 | -                 | -                     | 15                                   | 0.33790                     |
| 0.23            | ±0.008                  | 98.0                    | 423.4000                 | -                 | -                     | 15                                   | 0.36940                     |
| 0.24            | ±0.008                  | 98.0                    | 388.9000                 | -                 | -                     | 15                                   | 0.40220                     |
| 0.25            | ±0.01                   | 98.0                    | 358.4000                 | -                 | -                     | 15                                   | 0.43640                     |
| 0.26            | ±0.01                   | 98.0                    | 331.4000                 | -                 | -                     | 15                                   | 0.47200                     |
| 0.27            | ±0.01                   | 98.0                    | 307.3000                 | -                 | -                     | 15                                   | 0.50900                     |
| 0.28            | ±0.01                   | 98.0                    | 285.7000                 | -                 | -                     | 15                                   | 0.54740                     |
| 0.29            | ±0.01                   | 98.0                    | 266.4000                 | -                 | -                     | 20                                   | 0.58720                     |
| 0.30            | ±0.01                   | 99.3                    | 245.6000                 | -                 | -                     | 20                                   | 0.62840                     |
| 0.32            | ±0.01                   | 99.3                    | 215.9000                 | -                 | -                     | 20                                   | 0.71490                     |
| 0.35            | ±0.01                   | 99.3                    | 180.5000                 | -                 | -                     | 20                                   | 0.85530                     |
| 0.37            | ±0.01                   | 99.3                    | 161.5000                 | -                 | -                     | 20                                   | 0.95570                     |
| 0.40            | ±0.01                   | 99.3                    | 138.1000                 | -                 | -                     | 20                                   | 1.11700                     |
| 0.45            | ±0.01                   | 99.3                    | 109.2000                 | -                 | -                     | 20                                   | 1.41400                     |
| 0.50            | ±0.01                   | 100.0                   | 87.7900                  | 5.50              | 28                    | 20                                   | 1.74600                     |
| 0.55            | ±0.02                   | 100.0                   | 72.5600                  | 6.65              | 28                    | 20                                   | 2.11200                     |
| 0.60            | ±0.02                   | 100.0                   | 60.9900                  | 7.92              | 28                    | 20                                   | 2.51300                     |
| 0.65            | ±0.02                   | 100.0                   | 51.9600                  | 9.29              | 28                    | 20                                   | 2.95000                     |
| 0.70            | ±0.02                   | 100.0                   | 44.8100                  | 10.80             | 28                    | 20                                   | 3.42100                     |
| 0.75            | ±0.02                   | 100.0                   | 39.0300                  | 12.40             | 28                    | 20                                   | 3.92800                     |
| 0.80            | ±0.02                   | 100.0                   | 34.3000                  | 14.10             | 28                    | 25                                   | 4.46900                     |
| 0.85            | ±0.02                   | 100.0                   | 30.3800                  | 15.90             | 28                    | 25                                   | 5.04500                     |
| 0.90            | ±0.02                   | 100.0                   | 27.1000                  | 17.80             | 28                    | 25                                   | 5.65600                     |

Applications : Used for overhead power transmission purpose, medium tension. Overhead system and distribution network



## ANNEALED COPPER WIRE - SOFT

### JIS C 3102-1984

| Diameter        | Tolerance for Diameters | Conductivity (20°C) Min | Electric Resistance 20°C | Tensile Load Max. | Tensile Strength Max. | Elongation (gauge length 250mm) Min. | Approx. Weight of Conductor |
|-----------------|-------------------------|-------------------------|--------------------------|-------------------|-----------------------|--------------------------------------|-----------------------------|
| mm <sup>2</sup> | mm                      | %                       | ohm/km                   | kg                | kg/mm <sup>2</sup>    | %                                    | kg/km                       |
| 0.95            | ±0.02                   | 100.0                   | 24.3200                  | 19.80             | 28                    | 25                                   | 6.30100                     |
| 1.00            | ±0.03                   | 100.0                   | 21.9500                  | 22.00             | 28                    | 25                                   | 6.98200                     |
| 1.10            | ±0.03                   | 100.0                   | 18.1400                  | 26.60             | 28                    | 25                                   | 8.44800                     |
| 1.20            | ±0.03                   | 100.0                   | 15.2400                  | 31.70             | 28                    | 25                                   | 10.05000                    |
| 1.30            | ±0.03                   | 100.0                   | 12.9900                  | 37.20             | 27                    | 25                                   | 11.80000                    |
| 1.40            | ±0.03                   | 100.0                   | 11.2000                  | 41.60             | 27                    | 25                                   | 13.68000                    |
| 1.50            | ±0.03                   | 100.0                   | 9.7570                   | 47.70             | 27                    | 25                                   | 15.71000                    |
| 1.60            | ±0.03                   | 100.0                   | 8.5730                   | 54.30             | 27                    | 25                                   | 17.88000                    |
| 1.70            | ±0.03                   | 100.0                   | 7.5950                   | 61.30             | 27                    | 25                                   | 20.18000                    |
| 1.80            | ±0.03                   | 100.0                   | 6.7740                   | 68.70             | 27                    | 25                                   | 22.63000                    |
| 1.90            | ±0.03                   | 100.0                   | 6.0820                   | 76.50             | 27                    | 25                                   | 25.20000                    |
| 2.00            | ±0.03                   | 100.0                   | 5.4870                   | 84.80             | 27                    | 30                                   | 27.93000                    |
| 2.10            | ±0.03                   | 100.0                   | 4.9770                   | 93.50             | 27                    | 30                                   | 30.79000                    |
| 2.20            | ±0.03                   | 100.0                   | 4.5360                   | 103.00            | 27                    | 30                                   | 33.79000                    |
| 2.30            | ±0.03                   | 100.0                   | 4.1490                   | 112.00            | 27                    | 30                                   | 36.94000                    |
| 2.40            | ±0.03                   | 100.0                   | 3.8110                   | 122.00            | 27                    | 30                                   | 40.22000                    |
| 2.50            | ±0.03                   | 100.0                   | 3.5120                   | 133.00            | 27                    | 30                                   | 43.64000                    |
| 2.60            | ±0.03                   | 100.0                   | 3.2480                   | 143.00            | 27                    | 30                                   | 47.20000                    |
| 2.70            | ±0.03                   | 100.0                   | 3.0110                   | 155.00            | 27                    | 30                                   | 50.90000                    |
| 2.80            | ±0.03                   | 100.0                   | 2.8000                   | 166.00            | 27                    | 30                                   | 54.74000                    |
| 2.90            | ±0.03                   | 100.0                   | 2.6100                   | 172.00            | 26                    | 30                                   | 58.72000                    |
| 3.00            | ±0.03                   | 100.0                   | 2.4390                   | 184.00            | 26                    | 30                                   | 62.84000                    |
| 3.20            | ±0.04                   | 100.0                   | 2.1440                   | 209.00            | 26                    | 30                                   | 71.49000                    |
| 3.50            | ±0.04                   | 100.0                   | 1.7920                   | 250.00            | 26                    | 30                                   | 85.53000                    |
| 3.70            | ±0.04                   | 100.0                   | 1.6040                   | 280.00            | 26                    | 30                                   | 95.57000                    |
| 4.00            | ±0.04                   | 100.0                   | 1.3720                   | 327.00            | 26                    | 30                                   | 111.70000                   |
| 4.50            | ±0.04                   | 100.0                   | 1.0840                   | 413.00            | 26                    | 30                                   | 141.40000                   |
| 5.00            | ±0.04                   | 100.0                   | 0.8779                   | 511.00            | 26                    | 30                                   | 174.64000                   |

Applications : Used for overhead power transmission purpose, medium tension. Overhead system and distribution network



## NFA2X / NF2X

Aerial Bundled Conductor , Twisted Cable



### NFA2X

All Aluminium  
Conductor (AAC)

XLPE Insulated



### NF2X

Copper Conductor

XLPE Insulated

## Application

Bundle conductor for overhead distribution network without and with public lighting (between pole to pole).

## Specification

- SPLN D3.010 - 1 : 2014  
+ Addendum SPLN D3.010-1 : 2015
- SNI 04-1906 : 1990  
(Other specifications are available upon request).

## Construction

- Conductor  
NFA2X : Stranded All Aluminium Conductor (AAC).  
NF2X : Stranded Copper Conductor.
- Insulation  
Extrude of XLPE.

## Classification

Low Voltage Cable.



## ALUMINIUM CONDUCTOR, XLPE INSULATED

### SPLN D3.010 - 1 : 2014 + Addendum SPLN D3.010 - 1 : 2015

| Nom. Cross Sect. | Thickness of Insulation Phase | Thickness of Insulation Neutral | Approx. Diameter of Conductor Phase | Approx. Diameter of Conductor Neutral | Approx. Overall cable Diameter | Current Ratings | Max. Conductor DC Resistance at 20°C |         | Approx. Cable Weight | Standard Delivery Length |
|------------------|-------------------------------|---------------------------------|-------------------------------------|---------------------------------------|--------------------------------|-----------------|--------------------------------------|---------|----------------------|--------------------------|
|                  |                               |                                 |                                     |                                       |                                | In air (35°C)   | Phase                                | Neutral |                      |                          |
| mm <sup>2</sup>  | mm                            | mm                              | mm                                  | mm                                    | mm                             | A               | Ω/km                                 |         | kg/km                | m                        |
| 2x10 re          | 1.2                           | 1.2                             | 6.45                                | 6.45                                  | 13.0                           | 54              | 3.08                                 | 3.08    | 100.4                | 3,000/drum               |
| 4x10 re          | 1.2                           | 1.2                             | 6.45                                | 6.45                                  | 16.0                           | 54              | 3.08                                 | 3.08    | 200.8                | 2,000/drum               |
| 2x16 re          | 1.2                           | 1.2                             | 7.53                                | 7.53                                  | 15.0                           | 72              | 1.91                                 | 1.91    | 144.2                | 2,000/drum               |
| 4x16 re          | 1.2                           | 1.2                             | 7.53                                | 7.53                                  | 18.0                           | 72              | 1.91                                 | 1.91    | 288.4                | 1,000/drum               |
| 2x25 re          | 1.4                           | 1.4                             | 9.19                                | 9.19                                  | 19.0                           | 102             | 1.2                                  | 1.2     | 214                  | 1,000/drum               |
| 4x25 rm          | 1.4                           | 1.4                             | 9.19                                | 9.19                                  | 22.0                           | 102             | 1.2                                  | 1.2     | 428                  | 1,000/drum               |
| 4x35 rm          | 1.6                           | 1.6                             | 10.76                               | 10.76                                 | 26.0                           | 125             | 0.868                                | 0.868   | 604                  | 1,000/drum               |

Applications : Used for secondary distribution and street lighting overhead low voltage power cable

## LOW VOTAGE BUNDLED CONDUCTOR FOR OVERHEAD

### SNI 04-1906 : 1990

| Cable Construction |                      | Complete Cable |      |                          |                      | DC Resistance<br>At 20°C | Max. Current Capacity<br>At 35°C | Calculated Breaking Force | Standard Packaging |      |    |    |                 |              |
|--------------------|----------------------|----------------|------|--------------------------|----------------------|--------------------------|----------------------------------|---------------------------|--------------------|------|----|----|-----------------|--------------|
| No. of Core        | Nom. x Cross Section | Assembly Pitch |      | Approx. Twisted Diameter | Approx. Cable Weight |                          |                                  |                           | CU                 | CU   | CU | CU | Standart Length | Type of Root |
|                    |                      | Min.           | Max. |                          |                      |                          |                                  |                           |                    |      |    |    |                 |              |
| mm²                |                      | cm             |      | mm                       | kg/km                | ohm/km                   | A                                | kg                        | m                  |      |    |    |                 |              |
| 2 x 6 rm           |                      | 16             | 27   | 11.1                     | 144                  | 3.08                     | 54                               | 394                       | 2,000              | Drum |    |    |                 |              |
| 2 x 10 rm          |                      | 21             | 35   | 12.9                     | 224                  | 1.83                     | 73                               | 656                       | 2,000              | Drum |    |    |                 |              |
| 2 x 16 rm          |                      | 23             | 38   | 15.1                     | 345                  | 1.15                     | 97                               | 1,051                     | 2,000              | Drum |    |    |                 |              |
| 4 x 6 rm           |                      | 19             | 32   | 13.4                     | 289                  | 3.08                     | 54                               | 788                       | 1,000              | Drum |    |    |                 |              |
| 4 x 10 rm          |                      | 25             | 42   | 15.6                     | 449                  | 1.83                     | 73                               | 1,312                     | 1,000              | Drum |    |    |                 |              |
| 4 x 16 rm          |                      | 28             | 46   | 18.2                     | 690                  | 1.15                     | 97                               | 2,102                     | 1,000              | Drum |    |    |                 |              |
| 4 x 25 rm          |                      | 35             | 58   | 22.2                     | 1,061                | 0.727                    | 133                              | 3,284                     | 1,000              | Drum |    |    |                 |              |

Applications : Used for secondary distribution and street lighting overhead low voltage power cable



## NFA2X-T, 0.6/1kV

Aerial Bundled Conductor , Twisted Cable



Galvanized Steel Wire (GSW) and  
All Aluminium Conductor

XLPE Insulated

All Aluminium Conductor (AAC)

XLPE Insulated

### Application

Bundle conductor for overhead distribution network without and with public lighting. (between pole to pole).

### Specification

SPLN D3.010 - 1 : 2014 + Addendum SPLN D3.010 - 1 : 2015  
(Other specifications are available upon request).

### Construction

- Conductor  
Phase : Stranded All Aluminium conductor (AAC).  
Neutral/Messenger : Stranded Galvanized Steel Wire and All Aluminium Conductor (AAC).
- Insulation  
Extrude of XLPE, capable for continous operation at maximum cable's temperature.

### Classification

Low Voltage Cable.



## ALUMINIUM CONDUCTOR, XLPE INSULATED AND NEUTRAL MESSENGER

### SPLN D3.010 - 1 : 2014 + Addendum SPLN D3.010 - 1 : 2015

| Nom.<br>Cross<br>Sect. | Thickness<br>of<br>Insulation<br>Phase | Thickness<br>of<br>Insulation<br>Neutral | Approx.<br>Diameter<br>of<br>Conductor<br>Phase | Approx.<br>Diameter<br>of<br>Conductor<br>Neutral | Approx.<br>Overall<br>cable<br>Diameter | Current<br>Ratings | Max.<br>Conductor DC<br>Resistance at 20°C |         | Approx.<br>Cable<br>Weight | Standard<br>Delivery<br>Length |
|------------------------|----------------------------------------|------------------------------------------|-------------------------------------------------|---------------------------------------------------|-----------------------------------------|--------------------|--------------------------------------------|---------|----------------------------|--------------------------------|
|                        |                                        |                                          |                                                 |                                                   |                                         | In air<br>( 35°C ) | Phase                                      | Neutral |                            |                                |
| mm <sup>2</sup>        | mm                                     | mm                                       | mm                                              | mm                                                | mm                                      | A                  | Ω/km                                       |         | kg/km                      | m                              |
| 2x35+35 re             | 1.6                                    | 1.5                                      | 10.8                                            | 11.2                                              | 24                                      | 125                | 0.868                                      | 0.836   | 479                        | 1,000/drum                     |
| 2x50+50 re             | 1.6                                    | 1.6                                      | 12.3                                            | 13.0                                              | 28                                      | 154                | 0.641                                      | 0.585   | 643                        | 1,000/drum                     |
| 2x70+70 re             | 1.8                                    | 1.6                                      | 14.5                                            | 14.8                                              | 32                                      | 196                | 0.443                                      | 0.418   | 898                        | 1,000/drum                     |
| 3X35+35 re             | 1.6                                    | 1.5                                      | 10.8                                            | 11.2                                              | 27                                      | 125                | 0.868                                      | 0.836   | 622                        | 1,000/drum                     |
| 3X50+50 re             | 1.6                                    | 1.6                                      | 12.3                                            | 13.0                                              | 31                                      | 154                | 0.641                                      | 0.585   | 1018                       | 1,000/drum                     |
| 3X70+70 re             | 1.8                                    | 1.6                                      | 14.5                                            | 14.8                                              | 36                                      | 196                | 0.443                                      | 0.418   | 1165                       | 1,000/drum                     |
| 3X95+95 re             | 1.8                                    | 1.6                                      | 16.2                                            | 18.3                                              | 42                                      | 242                | 0.320                                      | 0.308   | 1497                       | 1,000/drum                     |
| 3X120+95 re            | 1.8                                    | 1.6                                      | 17.8                                            | 18.3                                              | 44                                      | 296                | 0.253                                      | 0.308   | 1845                       | 1,000/drum                     |



## AAC

All Aluminium Conductor



All Aluminium Conductor

### ■ Application

Overhead Transmission and Distribution.

### ■ Specification

SPLN 41-6 : 1981 / SNI 04 - 3557 : 1994

(Other specifications are available upon request).

### ■ Construction

Stranded All Aluminium Conductor.

### ■ Classification

Bare Conductor.



**ALL ALLOY CONDUCTOR ( AAC )**  
**SPLN 41 - 6 : 1981 & SNI 04-3557 : 1994**

| Cross Section Area |                 | No. of Wires | Dia. of Wires | Approx. Overall Diameter | Approx. Net Weight of Conductor | Calculated Breaking Force | DC Resistance AT 20°C | Current Rating Capacity | Standard Length |
|--------------------|-----------------|--------------|---------------|--------------------------|---------------------------------|---------------------------|-----------------------|-------------------------|-----------------|
| Nominal Size       | Actual Size     |              |               |                          |                                 |                           |                       |                         |                 |
| mm <sup>2</sup>    | mm <sup>2</sup> | n            | mm            | mm                       | kg/km                           | kg                        | ohm/km                | A                       | kg              |
| 16                 | 16.84           | 7            | 1.75          | 5.25                     | 46                              | 310                       | 1.7000                | 110                     | 500             |
| 25                 | 27.83           | 7            | 2.25          | 6.75                     | 76                              | 490                       | 1.0290                | 145                     | 500             |
| 35                 | 34.36           | 7            | 2.50          | 7.50                     | 94                              | 590                       | 0.8332                | 180                     | 500             |
| 50                 | 49.48           | 7            | 3.00          | 9.00                     | 135                             | 810                       | 0.5786                | 225                     | 500             |
| 50                 | 45.70           | 19           | 1.75          | 8.75                     | 126                             | 835                       | 0.6295                | 225                     | 500             |
| 55                 | 58.07           | 7            | 3.25          | 9.75                     | 159                             | 935                       | 0.4930                | 235                     | 500             |
| 70                 | 75.55           | 19           | 2.25          | 10.00                    | 208                             | 1,040                     | 0.3808                | 270                     | 1,000           |
| 95                 | 93.27           | 19           | 2.50          | 12.50                    | 257                             | 1,560                     | 0.3084                | 340                     | 1,000           |
| 100                | 99.30           | 7            | 4.25          | 12.75                    | 272                             | 1,540                     | 0.2883                | 350                     | 1,000           |
| 120                | 112.85          | 19           | 2.75          | 13.75                    | 310                             | 1,890                     | 0.2549                | 390                     | 1,000           |
| 150                | 157.62          | 19           | 3.25          | 16.25                    | 434                             | 2,530                     | 0.1825                | 455                     | 1,000           |
| 150                | 147.12          | 37           | 2.25          | 15.75                    | 406                             | 2,575                     | 0.1960                | 455                     | 1,000           |
| 185                | 181.63          | 37           | 2.50          | 17.50                    | 501                             | 3,110                     | 0.1587                | 520                     | 1,000           |
| 200                | 189.85          | 19           | 3.75          | 18.75                    | 577                             | 3,290                     | 0.1371                | 565                     | 1,000           |
| 240                | 238.76          | 19           | 4.00          | 20.00                    | 657                             | 3,700                     | 0.1205                | 625                     | 1,000           |
| 240                | 242.54          | 61           | 2.25          | 20.25                    | 670                             | 4,020                     | 0.1191                | 625                     | 1,000           |
| 300                | 299.44          | 61           | 2.50          | 22.50                    | 827                             | 4,850                     | 0.0965                | 710                     | 1,000           |
| 400                | 431.18          | 61           | 3.00          | 27.00                    | 1,191                           | 6,675                     | 0.0670                | 855                     | 1,000           |
| 500                | 506.04          | 61           | 3.25          | 29.25                    | 1,398                           | 7,700                     | 0.0571                | 990                     | 1,000           |
| 630                | 643.24          | 91           | 3.00          | 33.00                    | 1,782                           | 9,960                     | 0.0450                | 1,140                   | 1,000           |
| 800                | 754.92          | 91           | 3.25          | 35.75                    | 2,091                           | 11,480                    | 0.0384                | 1,340                   | 1,000           |
| 1,000              | 1,005.07        | 91           | 3.75          | 41.25                    | 2,784                           | 14,925                    | 0.0288                | 1,540                   | 1,000           |



## HAL

### Hard Drawn Aluminium Stranded Conductors



All Aluminium Conductor

#### ■ Application

Overhead Transmission and Distribution.

#### ■ Specification

JIS C 3109 : 1994

(Other specifications are available upon request).

#### ■ Construction

Stranded All Aluminium Conductor.

#### ■ Classification

Bare Conductor.



## HARD DRAWN ALUMINIUM STRANDED CONDUCTORS ( HAL )

### JIS C 3109 : 1994

| Cross Section Area |                 | No. of Wires | Dia. of Wires | Approx. Overall Diameter | Approx. Net Weight of Conductor | Calculated Breaking Force | DC Resistance AT 20°C | Current Rating Capacity | Standard Length |
|--------------------|-----------------|--------------|---------------|--------------------------|---------------------------------|---------------------------|-----------------------|-------------------------|-----------------|
| Nominal Size       | Actual Size     |              |               |                          |                                 |                           |                       |                         |                 |
| mm <sup>2</sup>    | mm <sup>2</sup> | n            | mm            | mm                       | kg/km                           | kg                        | ohm/km                | A                       | kg              |
| 55                 | 56.29           | 7            | 3.2           | 9.6                      | 153.8                           | 838                       | 0.507                 | 235                     | 500             |
| 95                 | 96.95           | 7            | 3.2           | 12.6                     | 264.9                           | 1,410                     | 0.295                 | 340                     | 1,000           |
| 150                | 152.8           | 19           | 3.2           | 16.0                     | 418.7                           | 2,270                     | 0.188                 | 455                     | 1,000           |
| 200                | 204.3           | 19           | 3.7           | 18.5                     | 559.8                           | 3,030                     | 0.140                 | 565                     | 1,000           |
| 240                | 238.8           | 19           | 4.0           | 20.0                     | 654.5                           | 3,490                     | 0.120                 | 625                     | 1,000           |
| 400                | 297.6           | 37           | 3.2           | 22.4                     | 820.1                           | 4,430                     | 0.0969                | 710                     | 1,000           |
| 400                | 397.6           | 37           | 3.7           | 27.0                     | 1,097                           | 5,890                     | 0.0726                | 855                     | 1,000           |
| 510                | 512.6           | 37           | 4.2           | 29.4                     | 1,413                           | 7,460                     | 0.0563                | 1,005                   | 1,000           |
| 660                | 655.8           | 61           | 3.7           | 33.3                     | 1,812                           | 9,720                     | 0.0441                | 1,190                   | 1,000           |
| 850                | 844.9           | 61           | 4.2           | 37.8                     | 2,334                           | 12,300                    | 0.0342                | 1,420                   | 1,000           |
| 980                | 978.3           | 91           | 3.7           | 40.7                     | 2,716                           | 14,500                    | 0.0297                | 1,505                   | 1,000           |
| 1,260              | 1,260.0         | 91           | 4.2           | 46.2                     | 3,499                           | 18,350                    | 0.0230                | 1,540                   | 1,000           |



## AAAC

All Alloy Aluminium Conductor



All Alloy Aluminium Conductor

### ■ Application

Overhead Transmission and Distribution.

### ■ Specification

SPLN 41-8 : 1981

(Other specifications are available upon request).

### ■ Construction

Stranded All Alloy Aluminium Conductor.

### ■ Classification

Bare Conductor.

## ALL ALUMINIUM ALLOY CONDUCTOR ( AAAC )

### SPLN 41 - 8 : 1981

| Cross Section Area |                 | No. of Wires | Dia. of Wires | Overall Diameter Approx | Weight Approx | DC Resistance AT 20°C | Current Rating | Rated Ultimate Strength | Standard Length |
|--------------------|-----------------|--------------|---------------|-------------------------|---------------|-----------------------|----------------|-------------------------|-----------------|
| Nominal            | Actual          |              |               |                         |               |                       |                |                         |                 |
| mm <sup>2</sup>    | mm <sup>2</sup> |              |               |                         |               |                       |                |                         |                 |
| 16                 | 16.84           | 7            | 1.75          | 5.25                    | 46            | 1.700                 | 105            | 310                     | 10,000          |
| 25                 | 27.83           | 7            | 2.25          | 6.75                    | 77            | 1.0290                | 145            | 490                     | 10,000          |
| 35                 | 34.36           | 7            | 2.50          | 7.50                    | 95            | 0.8332                | 165            | 590                     | 10,000          |
| 50                 | 49.48           | 7            | 3.00          | 9.00                    | 136           | 0.5786                | 205            | 810                     | 10,000          |
| 50                 | 45.70           | 19           | 1.75          | 8.75                    | 126           | 0.6295                | 195            | 835                     | 10,000          |
| 55                 | 58.07           | 7            | 3.25          | 9.75                    | 160           | 0.4930                | 230            | 935                     | 10,000          |
| 70                 | 75.55           | 19           | 2.25          | 11.25                   | 208           | 0.3808                | 270            | 1,040                   | 5,000           |
| 95                 | 93.27           | 19           | 2.50          | 12.50                   | 257           | 0.3084                | 305            | 1,560                   | 5,000           |
| 100                | 99.30           | 7            | 4.25          | 12.75                   | 274           | 0.2883                | 320            | 1,540                   | 5,000           |
| 120                | 112.85          | 19           | 2.75          | 13.75                   | 311           | 0.2549                | 345            | 1,890                   | 5,000           |
| 150                | 157.62          | 19           | 3.25          | 16.25                   | 435           | 0.1825                | 430            | 2,530                   | 5,000           |
| 150                | 147.12          | 37           | 2.25          | 15.75                   | 406           | 0.1960                | 410            | 2,575                   | 5,000           |
| 185                | 181.62          | 37           | 2.50          | 17.50                   | 501           | 0.1587                | 470            | 3,110                   | 5,000           |
| 200                | 209.85          | 19           | 3.75          | 18.75                   | 579           | 0.1371                | 510            | 3,290                   | 3,000           |
| 240                | 238.76          | 19           | 4.00          | 20.00                   | 658           | 0.1205                | 555            | 3,700                   | 3,000           |
| 240                | 242.54          | 61           | 2.25          | 20.25                   | 669           | 0.1191                | 560            | 4,020                   | 3,000           |
| 300                | 299.43          | 61           | 2.50          | 22.50                   | 826           | 0.0965                | 640            | 4,850                   | 3,000           |
| 400                | 431.18          | 61           | 3.00          | 27.00                   | 1,189         | 0.0670                | 805            | 6,675                   | 2,000           |
| 500                | 506.04          | 61           | 3.25          | 29.25                   | 1,395         | 0.0571                | 890            | 7,700                   | 2,000           |

Applications : Used for overhead power transmission purpose, medium tension . Overhead system and distribution network



## AAAC-S

All Alloy Aluminium Conductor with XLPE Insulated



### Application

Used for Overhead 20 kV Transmission Line.

### Specification

SPLN 41-10 or Manufacture Spec  
(Other specifications are available upon request).

### Construction

- Conductor  
Single core, Aluminium Conductors.
- Insulation  
Extrude of XLPE.

### Classification

Middle Voltage Cable.

#### ALL ALUMINIUM ALLOY CONDUCTOR XLPE INSULATION ( AAAC-S )

| Cross<br>Section<br>Area | No. of<br>Wires | Dia. of<br>Wires | Thickness<br>of<br>Insulation | Overall<br>Diameter<br>Approx | Weight<br>Approx | DC<br>Resistance<br>AT ( 20°C ) | Current<br>Rating<br>in Air ( 40°C ) | Standard<br>Length |
|--------------------------|-----------------|------------------|-------------------------------|-------------------------------|------------------|---------------------------------|--------------------------------------|--------------------|
| Nominal                  |                 |                  |                               |                               |                  |                                 |                                      |                    |
| mm <sup>2</sup>          | n               | mm               | mm                            | mm                            | kg/km            | Ω/km                            | A                                    | m                  |
| 35                       | 7               | 2.50             | 3.00                          | 13.50                         | 195              | 0.958                           | 150                                  | 5,000              |
| 50                       | 19              | 1.75             | 3.00                          | 8.75                          | 254              | 0.724                           | 180                                  | 5,000              |
| 70                       | 19              | 2.25             | 3.00                          | 11.25                         | 343              | 0.438                           | 246                                  | 2,000              |
| 95                       | 19              | 2.50             | 3.00                          | 12.50                         | 406              | 0.355                           | 282                                  | 2,000              |
| 120                      | 19              | 2.75             | 3.00                          | 13.75                         | 474              | 0.293                           | 319                                  | 2,000              |
| 150                      | 37              | 2.25             | 3.00                          | 15.75                         | 584              | 0.225                           | 378                                  | 1,000              |
| 185                      | 37              | 2.50             | 3.00                          | 17.50                         | 698              | 0.183                           | 432                                  | 1,000              |
| 240                      | 61              | 2.25             | 3.00                          | 20.25                         | 890              | 0.139                           | 523                                  | 1,000              |

Applications : Used for overhead transmission and distribution



## CCSXT

XLPE Insulated Aluminium Alloy Sheathed Conductor and HDPE



### Application

User for overhead 20 kV Transmission Line.

### Specification

SPLN D3.034 : 2020

(Other specifications are available upon request).

### Construction

- Conductor  
Single Core, Aluminium Compact Conductor.
- Insulation  
Extrude of Semi Conductive Conductor Screen, Cross Linked Polyethylene and Thermoplastic Polyethylene.

### Classification

Middle Voltage Cable.

### XLPE INSULATED ALUMINIUM ALLOY SHEATHED CONDUCTOR AND HDPE ( CCSXT ) SPLN D3.034 : 2020

| Cross Section Area | No. of Wires | Dia. of Wires | Thickness semi Conductive | Thickness of Insulation | Thickness of sheathed | DC Resistance AT ( 20°C ) | Current Rating in Air ( 35°C ) | Rated Tensile Strength | Weight Approx |
|--------------------|--------------|---------------|---------------------------|-------------------------|-----------------------|---------------------------|--------------------------------|------------------------|---------------|
| Nominal            | n            | mm            | mm                        | mm                      | mm                    | Ω/km                      | A                              | kN (min)               | kg/km         |
| 35                 | 7            | 2.63          | 0.50                      | 1.60                    | 1                     | 0.925                     | 139                            | 10.46                  | 220           |
| 50                 | 7            | 3.16          | 0.50                      | 1.60                    | 1                     | 0.642                     | 174                            | 15.09                  | 283           |
| 70                 | 7            | 3.95          | 0.50                      | 1.60                    | 1                     | 0.411                     | 230                            | 22.86                  | 394           |
| 95                 | 7            | 4.39          | 0.50                      | 1.60                    | 1                     | 0.332                     | 263                            | 28.24                  | 465           |
| 120                | 19           | 2.89          | 0.50                      | 1.60                    | 1                     | 0.281                     | 293                            | 34.27                  | 526           |
| 150                | 19           | 3.42          | 0.50                      | 1.60                    | 1                     | 0.201                     | 364                            | 47.99                  | 692           |
| 185                | 19           | 3.68          | 0.50                      | 1.60                    | 1                     | 0.174                     | 401                            | 53.85                  | 782           |
| 240                | 19           | 4.21          | 0.50                      | 1.60                    | 1                     | 0.133                     | 477                            | 70.48                  | 983           |

Applications : Used for overhead transmission and distribution



# PT. MAGNAKABEL NUSANTARA

## POWER YOUR WORLD

The cables are produced to confirm with the National and the International standards such as:

- SNI : Standar Nasional Indonesia
- SPLN : Standar Perusahaan Listrik Negara
- IEC : International Electrotechnical Commission
- BS : British Standards
- JIS : Japanese Industrial Standards
- VDE : Verband Deutscher Elektrotechniker
- ASTM : American Society for Testing Material
- DIN : Deutsche Industries Norm

By request : We can also produce products according to other specifications



