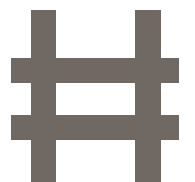




**GLOBALLY  
DISTRIBUTING  
THE PERFECTION  
THAT COMES  
FROM BEING  
MADE IN ITALY**







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## **UNIKA IS THE WINNING PARTNER OF ITS CUSTOMER** **UNIKA E' IL PARTNER VINCENTE DEI PROPRI CLIENTI**

**Unika S.p.A.**, founded in 1998, is by now a leader in Italy in the production of electrical cables supplied, to date, in several international markets.

It presents itself as an organization focused on market needs that can count on constant technological innovation in order to be of help on a wide range of applications for different industrial sectors. Its modern production facilities consist in two manufacturing plants and a logistics centre (KU Distribution), 10.000 and 4000 square meters respectively, which allow Unika to continue its daily task of production and development with great attention to customers' needs.

Thanks to the experience achieved through many years of collaboration with leading companies, Unika can now develop new products and production technologies that enable the manufacturing of cables with high chemical and mechanical performances.

The ability to meet main industry regulations and the willingness in granting requests for customization, makes Unika able to follow the evolution of the cable from the design to the production, until its warehouse storage.

Technical Staff, state-of-the-art laboratories and qualified personnel allow the continuous research and modernization which have been guiding Unika's growth.

Industrial automation, robotics, automotive, marine, offshore, railways, submersible pumps are a few areas of application in which the continuous investments have allowed the company to excel. Unika can number among its loyal customers major market players and, by developing dedicated products over the years, contributed to their technological growth and prestige.

Unika deals successfully with global market challenges while respecting the needs of increasingly demanding and competent customers. This is possible thanks to its never ending cutting-edge attitude that nowadays market requires.

**Unika S.p.A.** costituita nel 1998 è un'azienda ormai leader in Italia nella produzione di cavi elettrici che fornisce, ad oggi, in differenti mercati internazionali. Si presenta come una realtà attenta alle esigenze del mercato e in continua evoluzione tecnica con una vasta gamma d'applicazioni per differenti settori industriali.

Dispone di moderni impianti produttivi dislocati in due stabilimenti di produzione ed uno dedicato alla logistica (KU Distribution) rispettivamente di 10.000 mq e 4000 mq, che permettono ad Unika di proseguire l'impegno quotidiano di produzione e sviluppo con grande attenzione alle esigenze dei clienti.

Grazie all'esperienza ottenuta collaborando con importanti realtà internazionali è stata in grado di sviluppare nuovi prodotti e tecnologie di produzione che consentono la realizzazione di cavi ad alte prestazioni chimiche e meccaniche.

La capacità di soddisfare le principali normative di settore e la disponibilità nell'accogliere richieste di customizzazione, rende Unika in grado di seguire l'evoluzione del prodotto dalla progettazione del cavo alla produzione, fino allo stoccaggio a magazzino.

Staff Tecnico, laboratori all'avanguardia e personale qualificato, consentono una continua ricerca ed innovazione che hanno fatto da faro nel percorso di crescita aziendale: automazione, robotica, automotive, navale, off-shore, ferroviario, pompe sommerse solo per citare alcuni settori di applicazione nei quali i continui investimenti hanno permesso di primeggiare.

Unika può annoverare tra i suoi Clienti i maggiori player di mercato e grazie allo sviluppo di prodotti dedicati ha contribuito alla loro crescita tecnologica e di prestigio.

Unika affronta con successo le sfide del mercato globale rispettando le esigenze di una clientela sempre più attenta e competente, con le continue innovazioni tecnologiche che il mercato oggi impone.



Quality System ISO 9001:2008 ISO 14001:2004 by CSQ  
certificata CSQ al sistema di qualità ISO 9001:2008 ISO 14001:2004



**KU Distribution S.r.l.** is a company specialized in the management and distribution of cables for different industries with high technical and quality content.

In recent years the company has seen an important development in the range of products by introducing new types of cables. This evolution in its portfolio resulted in a further increase of its presence on the national and international territory.

In Mantua headquarters it is now possible to store more than 1500 pallet thanks to a mobile shelving system.

Many types and cross-sections available on our catalog are now managed on stock and can be also consulted on-line on our partners websites to provide instant visibility of availability.

The presence of more than 15,000 items linked to an innovative automatic line of cutting and packaging system, have helped meeting marketplace demands as well as enabling a quicker and quicker delivery service.

Thanks to the support of Unika Technical Staff, KU Distribution is able to satisfy the requests of cables customization and to provide support for the resulting application.

KU Distribution can rely on specialized agencies in Italy and on exclusive partners abroad who provide a widespread assistance and service for each area of competence.

#### **Certifications and Homologations**

Unika has chosen to invest a lot of efforts to achieve national and international certifications and homologations. Such a choice lets use method and model having the objective to assure the highest quality level for Unika's cables.

#### **Quality certifications**

Unika has got the Quality System ISO 9001:2008 ISO 14001:2004 by CSQ.

#### **Homologations**

Unika tries to give at any cables the most suitable homologation and nowadays it has wide range of approved cables to meet the highest request coming from the market.

**KU Distribution S.r.l.** è un'azienda specializzata nella gestione e distribuzione di cavi ad elevato contenuto tecnologico e qualitativo per diversi settori industriali. Negli ultimi anni l'azienda ha visto un'importante evoluzione introducendo nel range di prodotti nuove tipologie di cavo che hanno consentito una ulteriore affermazione della sua presenza sul territorio nazionale ed internazionale. Nella Sede di Mantova, grazie anche ad un magazzino compatto che consente di stoccare più di 1.500 pallet e attrezzature automatiche per la confezione, vengono oggi gestiti a magazzino molteplici tipologie e sezioni presenti sul nostro catalogo, consultabili anche on-line dai nostri partner, per garantire una visibilità immediata delle disponibilità. La presenza di oltre 15.000 articoli, l'innovazione della linea automatica del sistema di taglio e confezione, hanno consentito di soddisfare le più esigenti richieste di mercato garantendo tempi sempre più celeri di consegna.

Grazie al supporto dell'Ufficio Tecnico di Unika, KU Distribution è in grado di realizzare le richieste di customizzazione dei cavi e di fornire supporto per la conseguente applicazione.

KU Distribution dispone di agenzie specializzate nel territorio italiano e di partner esclusivi all'estero che capillarmente garantiscono l'assistenza ed il servizio ognuno per la zona di competenza.

#### **Omologazioni**

Unika ha scelto di investire notevoli energie per conseguire certificazioni ed omologazioni nazionali ed internazionali. Questa scelta consente di utilizzare un metodo ed un modello manageriale che hanno l'obiettivo di garantire il più alto livello di qualità possibile per i cavi Unika. Questa scelta rappresenta il certificato di garanzia dei prodotti ma anche lo specchio di una azienda giovane, dinamica, flessibile e modernamente organizzata.

#### **Qualità certificazioni**

Unika è certificata CSQ al sistema di qualità ISO 9001:2008 ISO 14001:2004.

#### **Omologazioni**

Unika cerca di corredare ogni cavo con l'omologazione più opportuna alla situazione ed oggi dispone di un repertorio di cavi omologati tale da soddisfare le più elevate esigenze di mercato.



**UNIKA Group** mission has always been the design and development of cables based on specific Customers' requests. Its presence and experience, gained over the years in several market sectors, linked to last generation production systems and to a technical and commercial task force at international level, allows the continuous improvement of the Company possibilities based on market trends. This background has stimulated a further enlargement of our range with the development of cables for railways applications, started in 2007 with the qualification of UNIKA into RFI vendor list.

All our rolling stock cables are in compliance with EN 45545-2 according to the highest safety level HL3 and all the type tests are certified by IMQ as competent body for rolling stock components.

The range consists of medium wall power and control cables according to EN 50264-3 and silicon cables according to EN 50382 standard for temperature up to 150°C. Silicon cables can grant the achievement of enhanced performances in tear and abrasion resistance and aging test as required by severe TRENITALIA rules without the employment of an external textile braid as mechanical protection. Beside those ones listed above, UNIKA has developed and approved according to EN 45545-2 indications, other cables out of the scope of the relevant EN Standards for rolling stocks but widely applied in such field.

In particular we can supply fire resistant power cables (following EN 50264 and EN 50200), control cables screened and unscreened with cross sections  $0,25 \div 0,75 \text{ mm}^2$  not included into EN 50264-3, special hybrid cables developed under Customers' needs, data cables (including Category 7A, Category 5E, Category 5E fire resistant, RS 485, RS 232 and Profinet) and thin wall cables according to EN 50306. UNIKA is also able to supply data cables with connectors and to test them according to the protocol they belong to, besides harnesses for revamping jobs.

La missione di **UNIKA Group** è sempre stata il progetto e lo sviluppo di cavi basati su specifiche richieste dei nostri Clienti. La nostra presenza ed esperienza, guadagnata nel corso degli anni in diversi settori, unita ai sistemi di produzione di ultima generazione e ad una nutrita task force tecnica e commerciale a livello internazionale, ha permesso lo sviluppo continuo dell'Azienda basandosi sulle tendenze del Mercato. Queste competenze di base hanno stimolato un ulteriore ampliamento della nostra gamma di prodotto con lo sviluppo dei cavi per applicazioni ferroviarie, iniziato nel 2007 con l'inserimento di UNIKA nella vendor list di RFI.

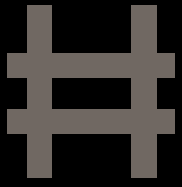
Tutti i cavi per rotabili sono conformi alla EN 45545-2 in accordo al più alto livello di sicurezza designato con HL3 e tutte le prove di tipo sono certificati dall'IMQ in qualità di competent Body per i componenti ferroviari.

Il range comprende i cavi di potenza e controllo a spessore medio secondo la EN 50264-3 e i cavi in silicone secondo la EN 50382 per temperature fino a 150°C. I cavi isolati in silicone possono vantare il raggiungimento di più elevate caratteristiche in termini di resistenza alla lacerazione e all'abrasione unite a più alte prestazioni a livello termico secondo le più severe richieste dettate da TRENITALIA che permette l'eliminazione della treccia tessile esterna quale ulteriore protezione meccanica. Oltre i cavi sopra elencati, UNIKA ha sviluppato e approvato in conformità alla EN 45545-2, altri cavi al di fuori delle tabelle delle norme EN ferroviarie ma ampiamente usati in questo campo.

In particolare, possiamo fornire cavi resistenti al fuoco (secondo la EN 50264 ed EN 50200), cavi di controllo schermati e non schermati con sezioni da  $0,25$  a  $0,75 \text{ mm}^2$  non inclusi nella EN 50264-3, cavi ibridi speciali sviluppati in accordo alle necessità del cliente, i cavi dati (tra i quali i cavi Categoria 7A, Categoria 5E, Categoria 5E resistenti al fuoco, RS 485, RS 232 e Profinet) e i cavi "thin wall" secondo EN 50306.

Unika è anche in grado di fornire i cavi dati opportunamente cablati con i loro connettori e testati in accordo al protocollo a cui appartengono, oltre che ai cavi precablati per i lavori di manutenzione e revamping.

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## ROLLING STOCK CABLES

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UNIRAIL S – EN 50264-3-2 600 V - type MMS	29
UNIRAIL P – EN 50264-3-2 300 V - type MM	30
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# UNIRAIL HT – EN 50382-2 1800 V 150°C - type F

UNIKA (Italy) - EN 50382-2 1800 V 16 F 150°C - code



## TECHNICAL DATA

Temperature rating up to and including 150°C
Very low temperatures resistance (-40°C)
Resistance to ozone, oils, acids and alkali
Enhanced abrasion and tear resistance and enhanced thermal aging for long term (beyond 20000h at 170°C) according to the TRENITALIA specification and principal OEMs requests
Bending radius: fixed $\geq 3$ outer diameter, flexible $\geq 5$ outer diameter
<b>Range of approval:</b> according to table 1 (cross-section 1,5 ÷ 400 mm <sup>2</sup> ) of EN 50382-2 for cables rated 1800V (see IMQ test certificate n° 1043)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter without braid [mm]	Cable mass [kg/km]
RA801	1,5	6,3 ÷ 7,3	57
RA802	2,5	6,7 ÷ 7,8	69
RA803	4	7,2 ÷ 8,4	86
RA804	6	7,7 ÷ 9,0	107
RA805	10	8,5 ÷ 10,0	151
RA806	16	9,6 ÷ 11,2	219
RA807	25	10,9 ÷ 12,7	305
RA808	35	12,1 ÷ 14,1	394
RA809	50	13,5 ÷ 15,8	540
RA810	70	15,2 ÷ 17,8	725
RA811	95	17,0 ÷ 19,9	961
RA812	120	18,6 ÷ 21,7	1182
RA813	150	20,1 ÷ 23,5	1438
RA814	185	21,7 ÷ 25,4	1760
RA815	240	24,1 ÷ 28,2	2249
RA816	300	26,4 ÷ 30,9	2680
RA817	400	29,9 ÷ 34,9	3450

## CONSTRUCTION

**Type:** single core cable unsheathed

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Screening separator:** semiconductive black tape

**Insulation:** silicon rubber compound, type EI111 according to Standard EN 50382-1, colour black if not otherwise stated

**Textile braid:** available upon request

**Marking:** UNIKA (Italy) – EN 50382-2 1800V *cross-section* F 150°C – *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL HT – EN 50382-2 3600 V 150°C - type F

UNIKA (Italy) - EN 50382-2 3600 V 10 F 150°C - code



## TECHNICAL DATA

Temperature rating up to and including 150°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, acids and alkali

Enhanced abrasion and tear resistance and enhanced thermal aging for long term (beyond 20000h at 170°C) according to the TRENITALIA specification and principal OEMs requests

Bending radius: fixed  $\geq 3$  outer diameter, flexible  $\geq 5$  outer diameter

### Range of approval:

according to table 3 (cross-section 2,5 ÷ 400 mm<sup>2</sup>) of EN 50382-2 for cables rated 3600V (see IMQ test certificate n° 1043)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter without braid [mm]	Cable mass [kg/km]
RA901	2,5	7,6 ÷ 8,9	84
RA902	4	8,1 ÷ 9,5	102
RA903	6	9,0 ÷ 10,6	124
RA904	10	9,5 ÷ 11,1	170
RA905	16	10,5 ÷ 12,3	241
RA906	25	11,8 ÷ 13,8	329
RA907	35	13,0 ÷ 15,2	422
RA908	50	14,4 ÷ 16,9	571
RA909	70	16,1 ÷ 18,9	760
RA910	95	17,5 ÷ 20,5	984
RA911	120	19,3 ÷ 22,6	1216
RA912	150	20,8 ÷ 24,4	1474
RA913	185	22,6 ÷ 26,5	1810
RA914	240	25,4 ÷ 29,8	2326
RA915	300	27,7 ÷ 32,4	2780
RA916	400	30,8 ÷ 36,0	3610

## CONSTRUCTION

**Type:** single core cable unsheathed

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Screening separator:** semiconductive black tape

**Insulation:** silicon rubber compound, type EI111 according to Standard EN 50382-1, colour black if not otherwise stated

**Textile braid:** available upon request

**Marking:** UNIKA (Italy) – EN 50382-2 3600V cross-section F 150°C – traceability code

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL HT – EN 50382-2 1800 V 150°C - type FF

UNIKA (Italy) - EN 50382-2 1800 V 25 FF 150°C - code

## TECHNICAL DATA

Temperature rating up to and including 150°C
Very low temperatures resistance (-40°C)
Resistance to ozone, oils, acids and alkali
Enhanced abrasion and tear resistance and enhanced thermal aging for long term (beyond 20000h at 170°C) according to the TRENITALIA specification and principal OEMs requests
Bending radius: fixed $\geq 3$ outer diameter, flexible $\geq 5$ outer diameter
<b>Range of approval:</b> according to table 2 (cross-section 1,5 ÷ 400 mm <sup>2</sup> ) of EN 50382-2 for cables rated 1800V (see IMQ test certificate n° 1043)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RAA01	1,5	6,8 ÷ 7,9	63
RAA02	2,5	7,2 ÷ 8,4	76
RAA03	4	7,7 ÷ 9,0	93
RAA04	6	8,2 ÷ 9,6	115
RAA05	10	9,4 ÷ 11,0	168
RAA06	16	10,5 ÷ 12,2	236
RAA07	25	12,3 ÷ 14,4	339
RAA08	35	13,6 ÷ 15,9	432
RAA09	50	15,0 ÷ 17,5	583
RAA10	70	16,8 ÷ 19,7	780
RAA11	95	19,0 ÷ 22,2	1039
RAA12	120	20,8 ÷ 24,3	1276
RAA13	150	22,3 ÷ 26,1	1539
RAA14	185	24,5 ÷ 28,6	1871
RAA15	240	27,1 ÷ 31,7	2417
RAA16	300	29,5 ÷ 34,6	2760
RAA17	400	33,2 ÷ 38,9	3620

screened version

Item n°	Cross-section [mm <sup>2</sup> ]	Nominal diameter [mm]	Cable mass [kg/km]
RAD08	50	16,6	660
RAD09	70	18,4	935

## CONSTRUCTION

**Type:** single core cable sheathed

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Screening separator:** semiconductive black tape

**Insulation:** silicon rubber compound, type EI111 according to Standard EN 50382-1, colour white if not otherwise stated

**Tape (optional):** polyester or other non-hygroscopic tape

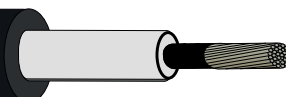
**Sheath:** silicon rubber compound, type EM107 according to Standard EN 50382-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50382-2 1800V *cross-section* FF 150°C – *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL HT – EN 50382-2 3600 V 150°C - type FF

UNIKA (Italy) - EN 50382-2 3600 V 50 FF 150°C - code



## TECHNICAL DATA

Temperature rating up to and including 150°C
Very low temperatures resistance (-40°C)
Resistance to ozone, oils, acids and alkali
Enhanced abrasion and tear resistance and enhanced thermal aging for long term (beyond 20000h at 170°C) according to the TRENITALIA specification and principal OEMs requests
Bending radius: fixed $\geq 3$ outer diameter, flexible $\geq 5$ outer diameter
<b>Range of approval:</b> according to table 5 (cross-section 2,5 ÷ 400 mm <sup>2</sup> ) of EN 50382-2 for cables rated 3600V (see IMQ test certificate n° 1043)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RAB01	2,5	9,9 ÷ 11,6	122
RAB02	4	10,4 ÷ 12,2	143
RAB03	6	10,9 ÷ 12,8	167
RAB04	10	11,8 ÷ 13,8	217
RAB05	16	12,8 ÷ 15,0	291
RAB06	25	14,7 ÷ 17,2	403
RAB07	35	15,9 ÷ 18,6	503
RAB08	50	17,5 ÷ 20,5	668
RAB09	70	19,2 ÷ 22,4	867
RAB10	95	20,8 ÷ 24,3	1110
RAB11	120	22,4 ÷ 26,2	1343
RAB12	150	24,1 ÷ 28,2	1621
RAB13	185	26,4 ÷ 30,9	2004
RAB14	240	29,4 ÷ 34,4	2555
RAB15	300	31,7 ÷ 37,1	3070
RAB16	400	35,0 ÷ 40,9	3970

screened version

Item n°	Cross-section [mm <sup>2</sup> ]	Nominal diameter [mm]	Cable mass [kg/km]
RAC07	35	17,4	590
RAC08	50	19,0	750
RAC09	70	20,6	1010
RAC10	95	22,9	1200
RAC11	120	24,4	1485

## CONSTRUCTION

**Type:** single core cable sheathed

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Screening separator:** semiconductive black tape

**Insulation:** silicon rubber compound, type EI111 according to Standard EN 50382-1, colour white if not otherwise stated

**Tape (optional):** polyester or other non-hygroscopic tape

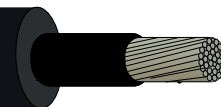
**Sheath:** silicon rubber compound, type EM107 according to Standard EN 50382-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50382-2 3600V *cross-section* FF 150°C – *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL HT – EN 50382-2 3600 V 150°C - type FX

UNIKA (Italy) - EN 50382-2 3600 V 70 FX 150°C - code



## TECHNICAL DATA

Temperature rating up to and including 150°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, acids and alkali

Enhanced abrasion and tear resistance and enhanced thermal aging for long term (beyond 20000h at 170°C) according to the TRENITALIA specification and principal OEMs requests

Bending radius: fixed  $\geq 3$  outer diameter, flexible  $\geq 5$  outer diameter

### Range of approval:

according to table 4 (cross-section 50 ÷ 185 mm<sup>2</sup>) of EN 50382-2 for cables rated 3600V (see IMQ test certificate n° 1043)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter without braid [mm]	Cable mass [kg/km]
RA908X	50	15,2 ÷ 17,8	580
RA909X	70	16,9 ÷ 19,8	770
RA910X	95	18,3 ÷ 21,4	995
RA911X	120	20,1 ÷ 23,5	1240
RA912X	150	21,6 ÷ 25,3	1485
RA913X	185	23,4 ÷ 27,4	1830

## CONSTRUCTION

**Type:** single core cable sheathed

**Conductor:** tinned copper conductor according to class 6 EN 60228

**Screening separator:** semiconductive black tape

**Insulation:** silicon rubber compound, type EI111 according to Standard EN 50382-1, colour black if not otherwise stated

**Textile braid:** available upon request

**Marking:** UNIKA (Italy) – EN 50382-2 3600V *cross-section* FX 150°C – *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

**Cables are suitable for dynamic installations**

# UNIRAIL S – EN 50264-3-1 600 V - type M

UNIKA (Italy) - EN 50264-3-1 600 V 16 M - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, fuels, oils, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 1 (cross-section 1 ÷ 400 mm<sup>2</sup>) of EN 50264-3-1 for cables rated 600V (see IMQ test certificate n° 1042)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/wwkm]
RB001	1	2,4 ÷ 2,8	14
RB002	1,5	2,8 ÷ 3,3	20
RB003	2,5	3,2 ÷ 3,8	29
RB004	4	3,8 ÷ 4,4	43
RB005	6	4,2 ÷ 5,0	63
RB006	10	5,1 ÷ 5,9	104
RB007	16	6,1 ÷ 7,2	157
RB008	25	7,8 ÷ 9,1	253
RB009	35	9,0 ÷ 10,6	336
RB010	50	10,6 ÷ 12,4	486
RB011	70	12,5 ÷ 14,6	673
RB012	95	13,9 ÷ 16,3	892
RB013	120	15,7 ÷ 18,4	1124
RB014	150	17,6 ÷ 20,6	1399
RB015	185	19,6 ÷ 22,9	1745
RB016	240	22,2 ÷ 26,0	2261
RB017	300	24,6 ÷ 28,8	2776
RB018	400	28,1 ÷ 32,9	3795

## CONSTRUCTION

**Type:** single core cable unsheathed

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape (optional):** coloured tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black or yellow-green if not otherwise stated

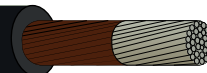
**Marking:** UNIKA (Italy) – EN 50264-3-1 600V *cross-section M – traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

Add the following letter after the item number for colours different from black  
**C:** yellow/green  
**Y:** grey  
**B:** blue  
**R:** red  
**W:** brown  
**H:** white

# UNIRAIL S – EN 50264-3-1 1800 V – type M

UNIKA (Italy) - EN 50264-3-1 1800 V 35 M - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 2 (cross-section 1,5 ÷ 400 mm<sup>2</sup>) of EN 50264-3-1 for cables rated 1800V (see IMQ test certificate n° 1042)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RB101	1,5	5,3 ÷ 6,2	47
RB102	2,5	5,7 ÷ 6,7	58
RB103	4	6,2 ÷ 7,3	75
RB104	6	6,7 ÷ 7,8	97
RB105	10	7,5 ÷ 8,8	144
RB106	16	8,6 ÷ 10,0	201
RB107	25	9,9 ÷ 11,6	298
RB108	35	11,1 ÷ 13,0	386
RB109	50	12,5 ÷ 14,6	534
RB110	70	14,2 ÷ 16,6	717
RB111	95	16,0 ÷ 18,7	953
RB112	120	17,6 ÷ 20,6	1177
RB113	150	19,1 ÷ 22,3	1433
RB114	185	20,9 ÷ 24,4	1777
RB115	240	23,7 ÷ 27,5	2272
RB116	300	25,6 ÷ 30,1	2785
RB117	400	29,2 ÷ 34,2	3840

## CONSTRUCTION

**Type:** single core cable unsheathed

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape (optional):** coloured or semiconductive tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black or yellow-green if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-1 1800V cross-section M – traceability code

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

Add the following letter after the item number for colours different from black

**C:** yellow/green

**Y:** grey

**B:** blue

**R:** red

**W:** brown

**H:** white

**X:** class 6 conductor

# UNIRAIL S – EN 50264-3-1 1800 V – type MM

UNIKA (Italy) - EN 50264-3-1 1800 V 70 MM - code

## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 3 (cross-section 1,5 ÷ 400 mm<sup>2</sup>) of EN 50264-3-1 for cables rated 1800V (see IMQ test certificate n° 1042)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RB201	1,5	5,7 ÷ 6,7	49
RB202	2,5	6,0 ÷ 7,0	61
RB203	4	6,5 ÷ 7,6	78
RB204	6	7,0 ÷ 8,1	100
RB205	10	8,2 ÷ 9,6	156
RB206	16	9,2 ÷ 10,8	215
RB207	25	11,5 ÷ 13,4	343
RB208	35	12,7 ÷ 14,9	436
RB209	50	14,1 ÷ 16,5	591
RB210	70	15,8 ÷ 18,5	781
RB211	95	18,0 ÷ 21,0	1045
RB212	120	19,6 ÷ 22,9	1278
RB213	150	21,4 ÷ 25,1	1564
RB214	185	23,4 ÷ 27,4	1923
RB215	240	25,9 ÷ 30,3	2434
RB216	300	28,1 ÷ 32,9	2940
RB217	400	32,0 ÷ 37,4	3980

## CONSTRUCTION

**Type:** single core cable sheathed

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape (optional):** coloured or semiconductive tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black if not otherwise stated (upon request compound type EI110)

**Tape (optional):** coloured tape

**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-1 1800V *cross-section* MM – *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL S - EN 50264-3-1 3600 V - type MM

UNIKA (Italy) - EN 50264-3-1 3600 V 95 MM - code

## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 4 (cross-section 2,5 ÷ 400 mm<sup>2</sup>) of EN 50264-3-1 for cables rated 3600V (see IMQ test certificate n° 1042)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RB301	2,5	8,6 ÷ 10,1	113
RB302	4	9,1 ÷ 10,7	134
RB303	6	9,6 ÷ 11,2	158
RB304	10	10,4 ÷ 12,2	210
RB305	16	11,5 ÷ 13,4	272
RB306	25	13,7 ÷ 16,1	416
RB307	35	14,9 ÷ 17,5	517
RB308	50	16,4 ÷ 19,1	680
RB309	70	18,0 ÷ 21,1	880
RB310	95	19,5 ÷ 22,8	1120
RB311	120	21,4 ÷ 25,1	1376
RB312	150	22,9 ÷ 26,8	1646
RB313	185	25,1 ÷ 29,4	2034
RB314	240	28,3 ÷ 33,1	2608
RB315	300	30,6 ÷ 35,8	3128
RB316	400	33,7 ÷ 39,4	4205

## CONSTRUCTION

**Type:** single core cable sheathed

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape (optional):** semiconductive tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black if not otherwise stated (upon request compound type EI110)

**Tape (optional):** coloured tape

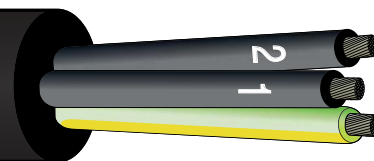
**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-1 3600V cross-section MM – *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL S – EN 50264-3-2 300 V – type MM

UNIKA (Italy) – EN 50264-3-2 300 V 3x1 MMG - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 1 (cross-section 1 ÷ 2,5 mm<sup>2</sup>) of EN 50264-3-2 for cables rated 300V (see IMQ test certificate n° 1042)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]	Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RB401	2x1	5,3 ÷ 6,2	42	RB429	8x1,5	9,8 ÷ 11,0	190
RB425	3x1	5,7 ÷ 6,9	58	RB413	9x1,5	10,9 ÷ 12,7	197
RB402	4x1	6,1 ÷ 7,2	67	RB414	12x1,5	11,8 ÷ 13,8	257
RB426	5x1	6,9 ÷ 8,1	95	RB415	19x1,5	14,2 ÷ 16,6	402
RB403	7x1	7,5 ÷ 8,7	111	RB416	24x1,5	16,6 ÷ 19,5	503
RB428	8x1	8,5 ÷ 9,7	140	RB417	32x1,5	18,7 ÷ 21,9	674
RB404	9x1	9,1 ÷ 10,6	150	RB418	37x1,5	19,5 ÷ 22,8	761
RB427	10x1	9,8 ÷ 11,2	170	RB419	4x2,5	8,3 ÷ 9,8	138
RB405	12x1	9,8 ÷ 11,5	180	RB420	7x2,5	10,2 ÷ 11,9	232
RB406	19x1	11,7 ÷ 13,7	278	RB421	9x2,5	12,9 ÷ 15,1	309
RB407	24x1	14,1 ÷ 16,5	363	RB422	12x2,5	13,9 ÷ 16,3	396
RB408	32x1	15,5 ÷ 18,2	468	RB423	19x2,5	16,3 ÷ 19,1	601
RB409	37x1	16,1 ÷ 18,9	530	RB424	24x2,5	19,6 ÷ 22,9	776
RB410	40x1	16,7 ÷ 19,6	572	RB430	2x1,5	6,7	70
RB411	4x1,5	7,3 ÷ 8,6	94	RB431	6x1,5	9,3	150
RB412	7x1,5	8,7 ÷ 10,2	153	RB432	2x2,5	7,5	96

Add letter **G** after the item number for cables with yellow/green conductor

## CONSTRUCTION

**Type:** multicore cable unscreened

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape (optional):** coloured tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers with or without yellow-green if not otherwise stated (upon request compound type EI110)

**Tape:** non-hygroscopic tape on the assembly

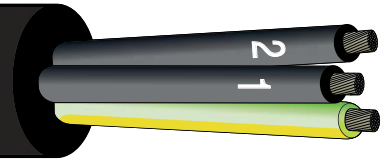
**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 300V (*core number x cross-section*) MM (MMG with yellow-green) – *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL S – EN 50264-3-2 600 V – type MM

UNIKA (Italy) – EN 50264-3-2 600 V 3x1,5 MMG - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 4, 6 e 8 (cross-section 1,5 ÷ 50 mm<sup>2</sup>) of EN 50264-3-2 for cables rated 600V (see IMQ test certificate n° 1042).

## CONSTRUCTION

**Type:** multicore cable unscreened

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape (optional):** coloured tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers with or without yellow-green if not otherwise stated (upon request compound type EI110)

**Tape:** non-hygroscopic tape on the assembly

**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 600V (*core number x cross-section*) MM (MMG with yellow/green) – *traceability code*

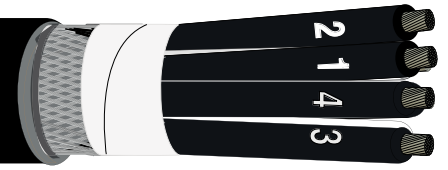
**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]	Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RB601	2x1,5	7,2 ÷ 9,0	67	RB616	3x25	20,0 ÷ 24,7	902
RB602	2x2,5	8,0 ÷ 10,0	94	RB617	3x35	23,0 ÷ 28,2	1167
RB603	2x4	9,1 ÷ 11,3	123	RB618	3x50	26,3 ÷ 32,2	1515
RB604	2x6	10,1 ÷ 12,4	178	RB619	4x1,5	8,5 ÷ 10,5	109
RB605	2x10	12,5 ÷ 15,4	293	RB620	4x2,5	9,4 ÷ 11,6	160
RB606	2x16	14,9 ÷ 18,4	434	RB621	4x4	10,9 ÷ 13,4	221
RB607	2x25	18,7 ÷ 23,0	665	RB622	4x6	12,2 ÷ 14,9	310
RB608	2x35	21,2 ÷ 25,9	856	RB623	4x10	14,7 ÷ 18,2	478
RB609	2x50	25,1 ÷ 30,7	1140	RB624	4x16	18,0 ÷ 22,1	739
RB610	3x1,5	7,7 ÷ 9,5	88	RB625	4x25	22,6 ÷ 27,6	1131
RB611	3x2,5	8,5 ÷ 10,5	124	RB626	3x35+25	25,7 ÷ 31,2	1755
RB612	3x4	9,7 ÷ 12,0	169	RB627	3x50+25	30,0 ÷ 36,5	1855
RB613	3x6	10,7 ÷ 13,2	248	RB628	5x2,5	9,9 ÷ 11,9	207
RB614	3x10	13,3 ÷ 16,5	392	RB629	6x1,5	9,8 ÷ 11,8	186
RB615	3x16	16,0 ÷ 19,6	590	RB630	6x2,5	10,9 ÷ 13,1	252

Add letter **G** after the item number for cables with yellow/green conductor

# UNIRAIL S – EN 50264-3-2 300 V – type MMS

UNIKA (Italy) – EN 50264-3-2 300 V 4x2,5 MMS - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 2 (cross-section 1 ÷ 2,5 mm<sup>2</sup>) of EN 50264-3-2 for cables rated 300V (see IMQ test certificate n° 1042)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]	Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RB501	2x1	6,0 ÷ 7,1	60	RB513	9x1,5	12,1 ÷ 14,2	260
RB525	3x1	6,5 ÷ 7,5	86	RB514	12x1,5	13,0 ÷ 15,2	324
RB502	4x1	7,0 ÷ 8,2	94	RB515	19x1,5	15,3 ÷ 17,9	498
RB503	7x1	8,2 ÷ 9,6	137	RB516	24x1,5	18,1 ÷ 21,2	620
RB526	8x1	9,4 ÷ 10,6	185	RB517	32x1,5	19,8 ÷ 23,2	803
RB504	9x1	10,2 ÷ 11,9	195	RB518	37x1,5	20,5 ÷ 24,0	891
RB505	12x1	10,9 ÷ 12,7	238	RB519	4x2,5	9,2 ÷ 10,8	180
RB506	19x1	13,2 ÷ 15,4	368	RB520	7x2,5	11,1 ÷ 13,0	285
RB507	24x1	15,2 ÷ 17,8	461	RB521	9x2,5	13,9 ÷ 16,3	393
RB508	32x1	16,6 ÷ 19,4	578	RB522	12x2,5	15,0 ÷ 17,5	488
RB509	37x1	17,2 ÷ 20,1	642	RB523	19x2,5	17,8 ÷ 20,8	708
RB510	40x1	18,2 ÷ 21,3	710	RB524	24x2,5	20,6 ÷ 24,1	905
RB511	4x1,5	8,0 ÷ 9,4	119	RB528	2x1,5	7,3	101
RB512	7x1,5	9,6 ÷ 11,3	199	RB529	3x1,5	7,8	116
RB527	8x1,5	10,4 ÷ 12,4	245				

Add letter G after the item number for cables with yellow/green conducto

## CONSTRUCTION

**Type:** multicore cable screened

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape (optional):** coloured tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers with or without yellow-green if not otherwise stated (upon request compound type EI110)

**Tape:** non-hygroscopic tape on the assembly

**Screen:** tinned copper wire braid with optional non-hygroscopic tape

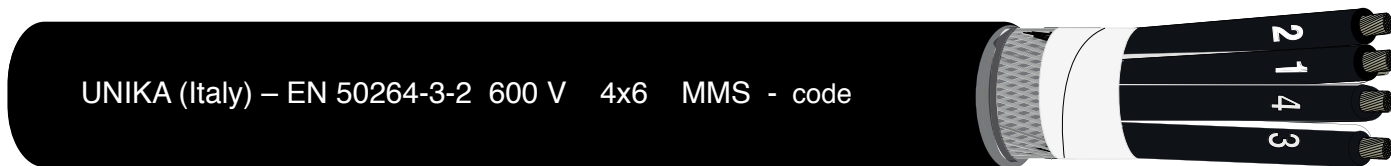
**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 300V (*core number x cross-section*) MMS – *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL S – EN 50264-3-2 600 V – type MMS

UNIKA (Italy) – EN 50264-3-2 600 V 4x6 MMS - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 5, 7 and 9 (cross-section 1,5 ÷ 50 mm<sup>2</sup>) of EN 50264-3-2 for cables rated 600V (see IMQ test certificate n° 1042).

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]	Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RB701	2x1,5	7,9 ÷ 9,9	94	RB716	3x25	21,3 ÷ 26,1	1061
RB702	2x2,5	8,7 ÷ 10,7	125	RB717	3x35	24,5 ÷ 29,8	1368
RB703	2x4	10,2 ÷ 12,7	175	RB718	3x50	28,3 ÷ 34,6	1761
RB704	2x6	10,9 ÷ 13,6	233	RB719	4x1,5	9,1 ÷ 11,3	142
RB705	2x10	13,4 ÷ 16,6	357	RB720	4x2,5	10,4 ÷ 12,9	212
RB706	2x16	16,0 ÷ 19,8	533	RB721	4x4	11,8 ÷ 14,5	281
RB707	2x25	19,8 ÷ 24,6	789	RB722	4x6	13,1 ÷ 16,1	375
RB708	2x35	22,8 ÷ 27,9	1044	RB723	4x10	15,9 ÷ 19,5	592
RB709	2x50	26,4 ÷ 32,3	1347	RB724	4x16	19,3 ÷ 23,6	870
RB710	3x1,5	8,4 ÷ 10,4	118	RB725	4x25	24,0 ÷ 29,3	1314
RB711	3x2,5	9,2 ÷ 11,4	157	RB728	6x1,5	10,3 ÷ 12,6	226
RB712	3x4	10,8 ÷ 13,3	226	RB729	6x2,5	11,5 ÷ 13,7	298
RB713	3x6	11,6 ÷ 14,3	307	RB730	7x1,5	10,3 ÷ 12,6	237
RB714	3x10	14,4 ÷ 18,0	503	RB726	3x35+25	26,9 ÷ 32,9	1662
RB715	3x16	17,4 ÷ 21,3	721	RB727	3x50+25	31,5 ÷ 38,2	2344

Add letter G after the item number for cables with yellow/green conductor

## CONSTRUCTION

**Type:** multicore cable screened

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape (optional):** coloured tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers with or without yellow-green if not otherwise stated (upon request compound type EI110)

**Tape:** non-hygroscopic tape on the assembly

**Screen:** tinned copper wire braid with optional non-hygroscopic tape

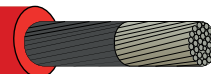
**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 600V (*core number x cross-section*) MMS – *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL S – EN 50264-3-1 600 V – type M

UNIKA (Italy) - EN 50264-3-1 600 V 6 M - EN 50200 PH120 - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 1 (cross-section 1 ÷ 400 mm<sup>2</sup>) of EN 50264-3-1 for cables rated 600V (see IMQ test certificate n° 1041) with fire resisting time not below 120 min

Item n°	Cross-section [mm <sup>2</sup> ]	Type	Diameter [mm]	Cable mass [kg/km]
RB801	1	M	2,4 ÷ 2,8	17
RB802	1,5	M	2,8 ÷ 3,3	23
RB803	2,5	M	3,2 ÷ 3,8	33
RB804	4	M	3,8 ÷ 4,4	47
RB805	6	M	4,2 ÷ 5,0	67
RB806	10	M	5,1 ÷ 5,9	106
RB807	16	M	6,1 ÷ 7,2	158
RB808	25	M	7,8 ÷ 9,1	248
RB809	35	M	9,0 ÷ 10,6	331
RB810	50	M	10,6 ÷ 12,4	474
RB811	70	M	12,5 ÷ 14,6	655
RB812	95	M	13,9 ÷ 16,3	871
RB813	120	M	15,7 ÷ 18,4	1095
RB814	150	M	17,6 ÷ 20,6	1363
RB815	185	M	19,6 ÷ 22,9	1699
RB816	240	M	22,2 ÷ 26,0	2197
RB817	300	M	24,6 ÷ 28,8	2689
RB818	400	M	28,1 ÷ 32,9	3800

## CONSTRUCTION

**Type:** single core cable unsheathed fire resistant

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape:** mica tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour red if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-1 600V *cross-section* M – EN 50200 PH120 - *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

Add the following letter after the item number for colours different from red  
**C:** yellow/green  
**Y:** grey  
**B:** blue  
**W:** brown  
**H:** white  
**K:** black

# UNIRAIL S – EN 50264-3-2 300 V – type MM

UNIKA (Italy) – EN 50264-3-2 300 V MM - EN 50200 PH120 - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 1 of EN 50264-3-2 for cables rated 600V (see IMQ test certificate n° 1041) with fire resisting time not below 120 min

Item n°	Cross-section [mm <sup>2</sup> ]	Nominal diameter [mm]	Cable mass [kg/km]
RB900	2x0,50	5,7	44
RB901	2x1	6,5	53
RB902	2x1,5	7,5	81
RB903	2x2,5	8,5	106
RB904	6x1	9,3	135
RB905	3x1	7,0	74
RB906	4x1	7,7	92
RB907	3x0,75	6,7	63

## CONSTRUCTION

**Type:** multicore cable fire resistant

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape:** mica tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers

**Tape:** non-hygroscopic tape on the assembly

**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour red if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 300V *cross-section* MM – EN 50200 PH120 - *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL S – EN 50264-3-1 300 V – type MMS

UNIKA (Italy) – EN 50264-3-1 300 V MMS - EN 50200 PH120 - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 1 of EN 50264-3-2 for cables rated 600V (see IMQ test certificate n° 1041) with fire resisting time not below 120 min

Item n°	Cross-section [mm <sup>2</sup> ]	Nominal diameter [mm]	Cable mass [kg/km]
RB900S	2x0,50	6,3	64
RB901S	2x1	7,0	77
RB902S	2x1,5	8,1	109
RB903S	2x2,5	9,1	143
RB904S	6x1	10,0	176
RB905S	3x1	7,6	100
RB906S	4x1	8,3	122
RB907S	3x0,75	7,3	90

## CONSTRUCTION

**Type:** multicore cable fire screened fire resistant

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape:** mica tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers

**Tape:** non-hygroscopic tape on the assembly

**Screen:** tinned copper wire braid with optional non-hygroscopic tape

**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour red if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 300V *cross-section* MMS – EN 50200 PH120 - *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL S – EN 50264-3-2 600 V – type MM

UNIKA (Italy) – EN 50264-3-2 600 V MM - EN 50200 PH120 - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 1 of EN 50264-3-2 for cables rated 600V (see IMQ test certificate n° 1041) with fire resisting time not below 120 min

Item n°	Cross-section [mm <sup>2</sup> ]	Nominal diameter [mm]	Cable mass [kg/km]
<b>RBA00</b>	2x1,5	8,4	92
<b>RBA01</b>	2x2,5	9,4	122
<b>RBA02</b>	3x1,5	8,9	106
<b>RBA03</b>	3x2,5	10,1	146
<b>RBA04</b>	4x1,5	9,9	137
<b>RBA05</b>	4x2,5	11,1	186

## CONSTRUCTION

**Type:** multicore cable fire resistant

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape:** mica tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers

**Tape:** non-hygroscopic tape on the assembly

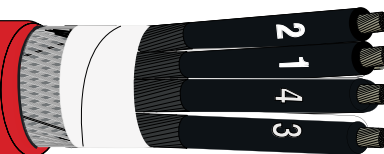
**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour red if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 600V *cross-section* MM – EN 50200 PH120 - *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL S – EN 50264-3-2 600 V – type MMS

UNIKA (Italy) – EN 50264-3-2 600 V MMS - EN 50200 PH120 - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table 1 of EN 50264-3-2 for cables rated 600V (see IMQ test certificate n° 1041) with fire resisting time not below 120 min

Item n°	Cross-section [mm <sup>2</sup> ]	Nominal diameter [mm]	Cable mass [kg/km]
RBA00S	2x1,5	9,0	129
RBA01S	2x2,5	10,0	163
RBA02S	3x1,5	9,5	146
RBA03S	3x2,5	10,7	190
RBA04S	4x1,5	10,5	184
RBA05S	4x2,5	11,7	233

## CONSTRUCTION

**Type:** multicore cable fire screened fire resistant

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape:** mica tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers

**Tape:** non-hygroscopic tape on the assembly

**Screen:** tinned copper wire braid with optional non-hygroscopic tape

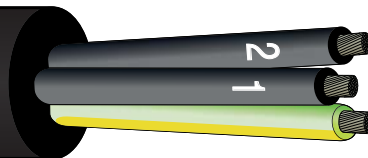
**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour red if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 600V *cross-section* MMS – EN 50200 PH120 - *traceability code*

**Fire safety:** Cables are classified in compliance to the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL P – EN 50264-3-2 300 V – type MM

UNIKA (Italy) – EN 50264-3-2 300 V 3x1 MMG - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

$(2 \div 64) \times (0,25 \div 0,75)$

(core number x cross-section)

According to EN 50264-3-2:2008 (as far as applicable) and UNIKA technical specification ref. 108/2015 rev.2 2015 (see IMQ test certificate n° 1040)

## CONSTRUCTION

**Type:** multicore cable unscreened

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers with or without yellow-green if not otherwise stated (upon request compound type EI110)

**Tape:** non-hygroscopic tape on the assembly

**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 300V (*core number x cross-section*) MM (MMG with yellow-green) – *traceability code*

**Fire safety:** Cables are classified in compliance with the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

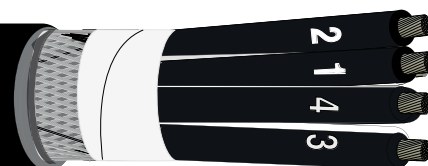
Item n°	Cross-section [mm²]	Diameter [mm]	Cable mass [kg/km]
RB4022	2x0,25	4,1 ÷ 5,3	24
RB4032	3x0,25	4,3 ÷ 5,5	34
RB4042	4x0,25	4,7 ÷ 5,9	40
RB4052	5x0,25	5,1 ÷ 6,3	45
RB4062	6x0,25	5,6 ÷ 6,8	52
RB4072	7x0,25	5,8 ÷ 7,0	57
RB4092	9x0,25	6,7 ÷ 7,9	70
RB4122	12x0,25	7,5 ÷ 8,7	87
RB4182	18x0,25	9 ÷ 10,2	126
RB4242	24x0,25	10,9 ÷ 12,5	166
RB4272	27x0,25	11,1 ÷ 12,7	181
RB4322	32x0,25	11,9 ÷ 13,5	208
RB4362	36x0,25	12,4 ÷ 14,0	231
RB4402	40x0,25	12,8 ÷ 14,4	250
RB4642	64x0,25	15,6 ÷ 17,8	398
RB4024	2x0,50	4,6 ÷ 5,8	32
RB4034	3x0,50	4,8 ÷ 6,0	45
RB4044	4x0,50	5,3 ÷ 6,5	55
RB4054	5x0,50	5,8 ÷ 7,0	64
RB4064	6x0,50	6,3 ÷ 7,5	73
RB4074	7x0,50	6,5 ÷ 7,7	81
RB4094	9x0,50	7,6 ÷ 8,8	101
RB4124	12x0,50	8,5 ÷ 9,7	131
RB4184	18x0,50	10,2 ÷ 11,8	189

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
<b>RB4244</b>	24x0,50	12,4 ÷ 14,0	245
<b>RB4274</b>	27x0,50	12,6 ÷ 14,2	268
<b>RB4324</b>	32x0,50	13,6 ÷ 15,8	322
<b>RB4364</b>	36x0,50	14,1 ÷ 16,3	362
<b>RB4404</b>	40x0,50	14,6 ÷ 16,8	395
<b>RB4644</b>	64x0,50	17,8 ÷ 20	617
<b>RB4025</b>	2x0,75	5 ÷ 6,2	40
<b>RB4035</b>	3x0,75	5,2 ÷ 6,4	51
<b>RB4045</b>	4x0,75	5,8 ÷ 7,0	62
<b>RB4055</b>	5x0,75	6,3 ÷ 7,5	74
<b>RB4065</b>	6x0,75	6,9 ÷ 8,1	85
<b>RB4075</b>	7x0,75	7,1 ÷ 8,3	95
<b>RB4095</b>	9x0,75	8,3 ÷ 9,5	119
<b>RB4125</b>	12x0,75	9,3 ÷ 10,5	156
<b>RB4185</b>	18x0,75	11,2 ÷ 12,8	222
<b>RB4245</b>	24x0,75	13,6 ÷ 15,8	288
<b>RB4275</b>	27x0,75	13,8 ÷ 16,0	319
<b>RB4325</b>	32x0,75	14,9 ÷ 17,1	373
<b>RB4365</b>	36x0,75	15,5 ÷ 17,7	422
<b>RB4405</b>	40x0,75	16,1 ÷ 18,3	464
<b>RB4645</b>	64x0,75	19,6 ÷ 21,8	735

Add letter G after the item number for cables with yellow/green conductor

# UNIRAIL P – EN 50264-3-2 300 V – type MMS

UNIKA (Italy) – EN 50264-3-2 300 V 4x0,50 MMS - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

$(2 \div 25) \times 2 \times (0,25 \div 0,75) \text{ mm}^2$

(core number)  $\times 2 \times$  (cross-section)

$(2 \div 25) \times 3 \times (0,25 \div 0,75) \text{ mm}^2$

(core number)  $\times 3 \times$  (cross-section)

According to EN 50264-3-2:2008 (as far as applicable) and UNIKA technical specification ref. 108/2015 rev.2 2015 (see IMQ test certificate n° 1040)

## CONSTRUCTION

**Type:** multicore cable screened

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers with or without yellow-green if not otherwise stated (upon request compound type EI110)

**Tape:** non-hygroscopic tape on the assembly

**Screen:** tinned copper wire braid with optional non-hygroscopic tape

**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 300V (core number  $\times$  cross-section) MMS – traceability code

**Fire safety:** Cables are classified in compliance with the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

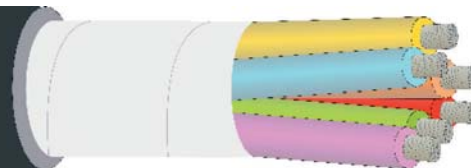
Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RB5022	2x0,25	4,6 ÷ 5,8	36
RB5032	3x0,25	4,8 ÷ 6,0	42
RB5042	4x0,25	5,2 ÷ 6,4	49
RB5052	5x0,25	5,6 ÷ 6,8	55
RB5062	6x0,25	6,1 ÷ 7,3	62
RB5072	7x0,25	6,3 ÷ 7,5	71
RB5092	9x0,25	7,4 ÷ 8,6	96
RB5122	12x0,25	8,2 ÷ 9,4	115
RB5182	18x0,25	9,7 ÷ 10,9	158
RB5242	24x0,25	11,6 ÷ 13,2	213
RB5372	27x0,25	11,8 ÷ 13,4	230
RB5322	32x0,25	12,8 ÷ 14,4	274
RB5362	36x0,25	13,3 ÷ 15,5	306
RB5402	40x0,25	13,7 ÷ 15,9	332
RB5642	64x0,25	16,5 ÷ 18,7	477
RB5024	2x0,50	5,1 ÷ 6,3	49
RB5034	3x0,50	5,3 ÷ 6,5	58
RB5044	4x0,50	5,8 ÷ 7,0	70
RB5054	5x0,50	6,3 ÷ 7,5	82
R45064	6x0,50	7,0 ÷ 8,2	102
RB5074	7x0,50	7,2 ÷ 8,4	113
RB5094	9x0,50	8,3 ÷ 9,5	41
RB5124	12x0,50	9,2 ÷ 10,4	174
RB5184	18x0,50	10,9 ÷ 12,5	250

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
<b>RB5244</b>	24x0,50	13,3 ÷ 15,5	358
<b>RB5374</b>	27x0,50	13,5 ÷ 15,7	388
<b>RB5324</b>	32x0,50	14,5 ÷ 16,7	439
<b>RB5364</b>	36x0,50	15,0 ÷ 17,2	480
<b>RB5404</b>	40x0,50	15,5 ÷ 17,7	520
<b>RB5644</b>	64x0,50	18,9 ÷ 21,1	791
<b>RB5025</b>	2x0,75	5,5 ÷ 6,7	53
<b>RB5035</b>	3x0,75	5,8 ÷ 7,0	60
<b>RB5045</b>	4x0,75	6,3 ÷ 7,5	69
<b>RB5055</b>	5x0,75	7,0 ÷ 8,2	90
<b>RB5065</b>	6x0,75	7,6 ÷ 8,8	105
<b>RB5075</b>	7x0,75	7,8 ÷ 9,0	118
<b>RB5095</b>	9x0,75	9,0 ÷ 10,2	145
<b>RB5125</b>	12x0,75	10,0 ÷ 11,6	181
<b>RB5185</b>	18x0,75	11,9 ÷ 13,5	262
<b>RB5245</b>	24x0,75	14,5 ÷ 16,7	371
<b>RB5375</b>	27x0,75	14,7 ÷ 16,9	403
<b>RB5325</b>	32x0,75	15,8 ÷ 18,0	463
<b>RB5365</b>	36x0,75	16,4 ÷ 18,6	509
<b>RB5405</b>	40x0,75	17,0 ÷ 19,2	557
<b>RB5645</b>	64x0,75	20,7 ÷ 22,9	859

Add letter G after the item number for cables with yellow/green conductor

# UNIRAIL P – EN 50264-3-2 300 V – type MM

UNIKA (Italy) - EN 50264-3-2 300V 3x2x0,25 MM - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

$(2 \div 25) \times 2 \times (0,25 \div 0,75) \text{ mm}^2$

(core number)  $\times 2 \times$  (cross-section)

$(2 \div 25) \times 3 \times (0,25 \div 0,75) \text{ mm}^2$

(core number)  $\times 3 \times$  (cross-section)

According to EN 52064-3-2:2008 (as far as applicable) and UNIKA technical specification ref. 108/2015 rev.2 (see IMQ test certificate n° 1040).

## CONSTRUCTION

**Type:** multipair cable unshielded

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, (upon request compound type EI110). Colours for cross section from 0,5 mm<sup>2</sup>: pairs blue-white, triples: blue-white-red, with black numbers. Colours for cross-section 0,25 and 0,34 mm<sup>2</sup>: DIN 47100

**Assembly:** cores are twisted into pairs or triples and pairs or triples are stranded together in concentric layers

**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 300V (number of pairs)  $\times 2 \times$  cross-section MM – traceability code  
UNIKA (Italy) – EN 50264-3-2 300V (number of triples)  $\times 3 \times$  cross-section MM – traceability code

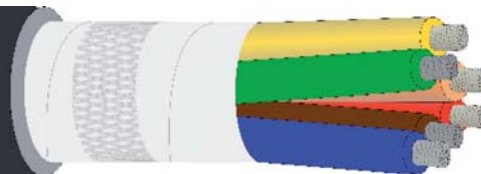
**Fire safety:** Cables are classified in compliance with the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RC8042	2x2x0,25	6,0 ÷ 7,2	42
RC8082	4x2x0,25	7,0 ÷ 8,2	64
RC8162	8x2x0,25	9,8 ÷ 11	116
RC8362	18x2x0,25	13,8 ÷ 16	245
RC8502	25x2x0,25	16,7 ÷ 18,9	341
RC8032	2x3x0,25	6,7 ÷ 7,9	54
RC8122	4x3x0,25	7,2 ÷ 9,1	86
RC8044	2x2x0,50	6,8 ÷ 8,0	56
RC8084	4x2x0,50	8,0 ÷ 9,2	91
RC8164	8x2x0,50	11,2 ÷ 12,8	173
RC8364	18x2x0,50	16, ÷ 18,5	378
RC8504	25x2x0,50	19,1 ÷ 21,3	498
RC8064	2x3x0,50	7,6 ÷ 8,8	74
RC8124	4x3x0,50	9,2 ÷ 10,4	129
RC8045	2x2x0,75	6,8 ÷ 8,0	67
RC8085	4x2x0,75	8,0 ÷ 9,2	113
RC8165	8x2x0,75	11,2 ÷ 12,8	217
RC8365	18x2x0,75	16,3 ÷ 18,5	477
RC8505	25x2x0,75	19,1 ÷ 21,3	635
RC8065	2x3x0,75	7,6 ÷ 8,8	91
RC8125	4x3x0,75	9,2 ÷ 10,4	162

Add letter G after the item number for cables with yellow/green conductor

# UNIRAIL P – EN 50264-3-2 300 V – type MMS

UNIKA (Italy) - EN 50264-3-2 300V 3x2x0,25 MMS - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

$(2 \div 25) \times 2 \times (0,25 \div 0,75) \text{ mm}^2$

(core number)  $\times 2 \times$  (cross-section)

$(2 \div 25) \times 3 \times (0,25 \div 0,75) \text{ mm}^2$

(core number)  $\times 3 \times$  (cross-section)

According to EN 52064-3-2:2008 (as far as applicable) and UNIKA technical specification ref. 108/2015 rev.2 (see IMQ test certificate n° 1040).

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
RC7042	2x2x0,25	6,5 ÷ 7,7	49
RC7082	4x2x0,25	7,7 ÷ 8,9	75
RC7162	8x2x0,25	10,5 ÷ 12,1	135
RC7362	18x2x0,25	14,7 ÷ 16,9	270
RC7502	25x2x0,25	17,5 ÷ 19,7	364
RC7062	2x3x0,25	7,4 ÷ 8,6	65
RC7122	4x3x0,25	8,5 ÷ 9,7	96
RC7044	2x2x0,50	7,5 ÷ 8,7	80
RC7084	4x2x0,50	8,7 ÷ 9,9	120
RC7164	8x2x0,50	11,9 ÷ 13,5	213
RC7364	18x2x0,50	17,1 ÷ 19,3	458
RC7504	25x2x0,50	20,2 ÷ 22,4	588
RC7064	2x3x0,50	8,3 ÷ 9,5	103
RC7124	4x3x0,50	9,9 ÷ 11,5	162
RC7045	2x2x0,75	8,2 ÷ 9,4	109
RC7085	4x2x0,75	9,7 ÷ 10,9	166
RC7165	8x2x0,75	13,0 ÷ 15,2	292
RC7065	2x3x0,75	9,3 ÷ 10,5	114
RC7125	4x3x0,75	10,8 ÷ 12,4	188

Add letter G after the item number for cables with yellow/green conductor

## CONSTRUCTION

**Type:** multipair screened cables

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, (upon request compound type EI110). Colours for cross section from 0,5 mm<sup>2</sup>: pairs blue-white, triples: blue-white-red, with black numbers. Colours for cross-section 0,25 and 0,34 mm<sup>2</sup>: DIN 47100

**Assembly:** cores are twisted into pairs or triples and pairs or triples are stranded together in concentric layers

**Screen:** tinned copper wire braid with optional non-hygroscopic tape

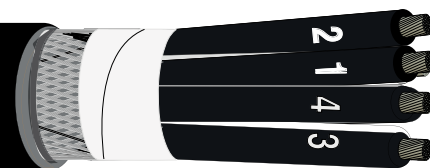
**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 300V (number of pairs)  $\times 2 \times$  cross-section MM – traceability code  
UNIKA (Italy) – EN 50264-3-2 300V (number of triples)  $\times 3 \times$  cross-section MM – traceability code

**Fire safety:** Cables are classified in compliance with the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL P – EN 50264-3-2 300 V – type MMS

UNIKA (Italy) – EN 50264-3-2 300 V 4x0,50 MMS - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, fuels, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

$(3 \times 0,50) + (3 \div 26) \times 0,50 \text{ mm}^2$

According to EN 50264-3-2:2008 (as far as applicable) and UNIKA technical specification ref. 108/2015 rev.2 (see IMQ test certificate n° 1040)

Item n°	Cross-section [mm <sup>2</sup> ]	Diameter [mm]	Cable mass [kg/km]
<b>RC7064</b>	$(3 \times 0,50) + 3 \times 0,50$	7,6 ÷ 9,0	102
<b>RC7154</b>	$(3 \times 0,50) + 12 \times 0,50$	10,0 ÷ 11,3	186
<b>RC7294</b>	$(3 \times 0,50) + 26 \times 0,50$	12,9 ÷ 14,3	324

Add letter G after the item number for cables with yellow/green conductor

## CONSTRUCTION

**Type:** multicore hybrid screened cables

**Conductor:** tinned copper conductor according to class 5 EN 60228

**Tape (optional):** coloured tape

**Insulation:** crosslinked compound, type EI109 according to Standard EN 50264-1, colour black with numbers with or without yellow-green if not otherwise stated (upon request compound type EI110)

**Assembly:** cores are stranded together a screened triples in concentric layers

**Tape:** non-hygroscopic tape on the assembly

**Screen:** tinned copper wire braid with optional non-hygroscopic tape

**Sheath:** crosslinked compound, type EM104 according to Standard EN 50264-1, colour black if not otherwise stated

**Marking:** UNIKA (Italy) – EN 50264-3-2 300V  $(3 \times 0,50) + \text{core number} \times 0,50 \text{ MMS}$  – traceability code

**Fire safety:** Cables are classified in compliance with the highest requirements established by **hazard level HL3** into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL TW – EN 50306-2 300 V – type M

Single core cable

UNIKA (Italy) - EN 50306-2 300 V 1 M - code



## TECHNICAL DATA

Temperature rating up to and including 105°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table TW1 (cross-section 0,5 ÷ 2,5 mm<sup>2</sup>) of EN 50306-2 for cables rated 300V (see IMQ test certificate n° 1296) and HITACHI specification 211NW50282B

Table TW1 - dimensional data

Item n°	Cross-section [mm <sup>2</sup> ]	Conductor n° wires x wire diameter [mm]	Diameter [mm]
RM001	0,5	19x0,18	1,15÷1,45
RM002	0,75	37x0,16 <sup>(1)</sup>	1,35÷1,65
RM003	1	37x0,18 <sup>(1)</sup>	1,45÷1,80
RM004	1,5	37x0,23 <sup>(1)</sup>	1,95÷2,30
RM005	2,5	37x0,30 <sup>(1)</sup>	2,50÷2,85

Note (1): conductors with 19 wires are allowed

## CONSTRUCTION

**Conductor:** tinned copper conductor according to table TW1

**Insulation:** double layer of special compound

**Marking:** UNIKA (Italy) – EN 50306-2 300V cross-section M – traceability code

**Fire safety:** Cables are classified in compliance to the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

Add the following letter after the item number for colours different from white

**G:** yellow/green

**Y:** grey

**B:** blue

**R:** red

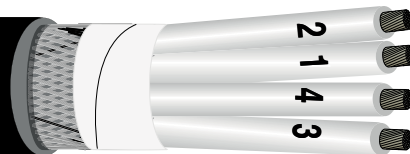
**W:** brown

**K:** black

# UNIRAIL TW – EN 50306-3 300 V – type MMS

Single core and multicore cables, screened and thin wall sheathed

UNIKA (Italy) – EN 50306-3 300 V 4x1,5 MMS - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table TW2 of EN 50306-3 for cables rated 300V (see IMQ test certificate n° 1296)

## CONSTRUCTION

**Conductor:** tinned copper conductor according to table TW1

**Insulation:** double layer of special compound

**Identification:** numbered white cores (other identification methods may be agreed)

**Laying-up:** cores are twisted together in multicore cables with optional non-hygroscopic tape

**Screen:** copper wire braid

**Sheath:** cross-linked compound type S2 according to EN 50306-1 for rated temperature 90°C, colour black

**Marking:** UNIKA (Italy) – EN 50306-3 300V (n°cores)x(cross-section) MM S 90 – traceability code

**Fire safety:** Cables are classified in compliance to the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

Table TW2 - dimensional data

Item n°	Conductor n° wires x wire diameter [mm]	Diameter [mm]
RM501	1x0,5	2,3÷2,8
RM502	2x0,5	3,5÷4,3
RM503	3x0,5	3,7÷4,5
RM504	4x0,5	4,0÷5,0
RM505	1x0,75	2,5÷3,0
RM506	2x0,75	3,9÷4,7
RM507	3x0,75	4,0÷5,0
RM508	4x0,75	4,5÷5,5
RM509	1x1	2,7÷3,2
RM510	2x1	4,2÷5,2
RM511	3x1	4,5÷5,5
RM512	4x1	5,0÷6,0
RM513	1x1,5	3,1÷3,6
RM514	2x1,5	5,1÷6,1
RM515	3x1,5	5,4÷6,4
RM516	4x1,5	6,0÷7,0
RM517	1x2,5	3,6÷4,4
RM518	2x2,5	6,4÷7,4
RM519	3x2,5	6,8÷7,8
RM520	4x2,5	7,5÷8,5

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# UNIRAIL TW – EN 50306-4 300 V – type MM

Multicore unscreened cables, standard wall sheathed

UNIKA (Italy) – EN 50306-4 300 V 4x1,5 MM - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table TW3 of EN 50306-4 for cables rated 300V (see IMQ test certificate n° 1296). Further construction are available upon request.

**Table TW3 – Multicore unscreened sheathed cables - Dimensional data**

Item n°	Cable type n° cores x cross-section [mm <sup>2</sup> ]	Diameter exposed type [mm]	Diameter protected type [mm]
RM201	4x0,5	5,5÷6,5	4,1÷5,1
RM202	7x0,5	6,3÷7,3	4,9÷5,9
RM203	13x0,5	8,3÷9,3	7,3÷8,3
RM204	19x0,5	9,0÷10,2	8,1÷9,1
RM205	37x0,5	12,3÷13,5	10,8÷12,0
RM206	4x0,75	6,0÷7,0	4,6÷5,6
RM207	7x0,75	6,9÷7,9	5,5÷6,5
RM208	13x0,75	9,1÷10,3	8,2÷9,2
RM209	19x0,75	10,0÷11,2	9,0÷10,2
RM210	37x0,75	13,2÷14,4	12,2÷13,4
RM211	48x0,75	14,8÷16,4	13,9÷15,5
RM212	4x1	6,3÷7,3	4,9÷5,9
RM213	7x1	7,3÷8,3	6,0÷7,0
RM214	13x1	9,7÷10,9	8,7÷9,9
RM215	19x1	10,7÷11,9	9,8÷11,0
RM216	37x1	14,0÷15,6	13,3÷14,5
RM217	4x1,5	7,4÷8,4	6,0÷7,0
RM218	7x1,5	8,6÷9,8	7,7÷8,7
RM219	13x1,5	11,7÷12,9	10,7÷11,9
RM220	19x1,5	13,0÷14,2	12,0÷13,2
RM221	37x1,5	17,2÷18,8	16,2÷17,8
RM222	2x2,5	7,7÷8,7	6,7÷7,7
RM223	3x2,5	8,1÷9,1	7,7÷8,1
RM224	4x2,5	8,8÷10,0	7,9÷8,9

## CONSTRUCTION

**Conductor:** tinned copper conductor according to table TW1

**Insulation:** double layer of special compound

**Identification:** numbered white cores (other identification methods may be agreed)

**Laying-up:** cores are twisted together in multicore cables with optional non-hygroscopic tape

**Sheath:** cross-linked compound type EM104 according to EN 50306-1, colour black

**Marking:** UNIKA (Italy) – EN 50306-4 300V “1n” (n°cores)x(cross-section) MM 90 – traceability code  
n: E for exposed installations or P for protected installations

**Fire safety:** Cables are classified in compliance to the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

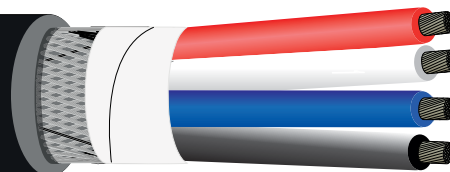
Add letter E for exposed installations or P for protected installations at the end of the item number

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# UNIRAIL TW – EN 50306-4 300 V – type MMS

Multicore screened cables, standard wall sheathed

UNIKA (Italy) – EN 50306-4 300 V 4x2,5 MMS - code



## TECHNICAL DATA

Temperature rating up to and including 90°C
Very low temperatures resistance (-40°C)
Resistance to ozone, oils, acids and alkali
Bending radius: refer to EN 50343 table 16
<b>Range of approval:</b> according to table TW5 of EN 50306-4 for cables rated 300V (see IMQ test certificate n° 1296 and HITACHI specification 211NW50283B). Further construction are available upon request.

**Table TW5 – Multipair cables, individually screened and sheathed with an overall sheath - Dimensional data**

Item n°	Cable type n° cores x cross-section [mm <sup>2</sup> ]	Diameter exposed type [mm]	Diameter protected type [mm]
RM301	2x0,5	5,5÷6,5	4,1÷5,1
RM302	3x0,5	5,7÷6,7	4,3÷5,3
RM303	4x0,5	6,1÷7,1	4,7÷5,7
RM304	6x0,5	6,9÷7,9	5,5÷6,5
RM305	8x0,5	7,5÷8,5	6,0÷7,0
RM306	2x0,75	5,9÷6,9	4,5÷5,5
RM307	3x0,75	6,2÷7,2	4,7÷5,7
RM308	4x0,75	6,5÷7,5	5,2÷6,2
RM309	6x0,75	7,5÷8,5	6,1÷7,1
RM310	8x0,75	8,2÷9,2	6,6÷7,6
RM311	2x1	6,2÷7,2	4,7÷5,7
RM312	3x1	6,5÷7,5	5,1÷6,0
RM313	4x1	6,9÷7,9	5,5÷6,5
RM314	6x1	8,0÷9,0	6,6÷7,6
RM315	8x1	8,6÷9,8	7,7÷8,7
RM316	2x1,5	7,1÷8,1	5,7÷6,7
RM317	3x1,5	7,4÷8,4	6,0÷7,0
RM318	4x1,5	8,0÷9,0	6,6÷7,6
RM319	6x1,5	9,2÷10,4	8,3÷9,3
RM320	8x1,5	10,2÷11,4	8,9÷10,1
RM321	2x2,5	8,3÷9,3	7,3÷8,3
RM322	3x2,5	8,6÷9,8	7,7÷8,7
RM323	4x2,5	9,4÷10,6	8,4÷9,6

## CONSTRUCTION

**Conductor:** tinned copper conductor according to table TW1  
Insulation: double layer of special compound

**Identification:** white, red, black, blue, brown, orange, grey, white/red (other identification methods may be agreed)

**Laying-up:** cores are twisted together in pair with optional non-hygroscopic tape

**Screen:** copper wire braid

**Sheath:** cross-linked compound type EM104 according to EN 50306-1, colour black

**Laying-up:** pairs are twisted together with optional fillers and non-hygroscopic tape

**Sheath:** cross-linked compound type EM104 according to EN 50306-1

**Marking:** UNIKA (Italy) – EN 50306-4 300V “5n” (n°pairs)x(cross-section) MMS 90 – traceability code  
n: E for exposed installations or P for protected installations

**Fire safety:** Cables are classified in compliance to the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

Add letter E for exposed installations or P for protected installations at the end of the item number

The characteristics of the products, described in the data sheet, do not constitute any contractual binding. UNIKA spa reserves the right to change the specifications without any notice. Partial or total reproduction of this document is forbidden

# UNIRAIL TW – EN 50306-4 300 V – type MMS

Multipair cables, individually screened and sheathe and with an overall sheath

UNIKA (Italy) – EN 50306-4 300 V 2x2x0,75 MMS - code



## TECHNICAL DATA

Temperature rating up to and including 90°C

Very low temperatures resistance (-40°C)

Resistance to ozone, oils, acids and alkali

Bending radius: refer to EN 50343 table 16

### Range of approval:

according to table TW4 of EN 50306-4 for cables rated 300V (see IMQ test certificate n° 1296). Further construction are available upon request.

**Table TW4 – Multicore screened sheathed cables - Dimensional data**

Item n°	Cable type n° cores x cross- section [mm <sup>2</sup> ]	Diameter exposed type [mm]	Diameter protected type [mm]
RM401	2x2x0,5	10,1÷11,3	9,0÷10,2
RM402	3x2x0,5	10,8÷12,0	9,6÷10,8
RM403	4x2x0,5	11,8÷13,0	10,7÷11,9
RM404	7x2x0,5	13,9÷15,5	13,0÷14,2
RM405	2x2x0,75	10,9÷12,1	9,8÷11,0
RM406	3x2x0,75	11,6÷12,8	10,5÷11,7
RM407	4x2x0,75	12,8÷14,0	11,6÷12,8
RM408	7x2x0,75	15,1÷16,7	14,0÷15,6
RM409	2x2x1	11,3÷12,5	10,2÷11,6
RM410	3x2x1	12,0÷13,2	10,9÷12,1
RM411	4x2x1	13,2÷14,4	12,1÷13,3
RM412	7x2x1	15,7÷17,3	14,6÷16,2
RM413	2x2x1,5	13,3÷14,5	12,2÷13,4
RM414	3x2x1,5	14,0÷15,6	13,1÷14,3
RM415	4x2x1,5	15,5÷17,1	14,3÷15,9
RM416	7x2x1,5	18,7÷20,3	17,6÷19,2

Add letter E for exposed installations or P for protected installations at the end of the item number

## CONSTRUCTION

**Conductor:** tinned copper conductor according to table TW1

Insulation: double layer of special compound

**Identification:** numbered white cores (other identification methods may be agreed)

**Laying-up:** cores are twisted together in multicore cables with optional non-hygroscopic tape

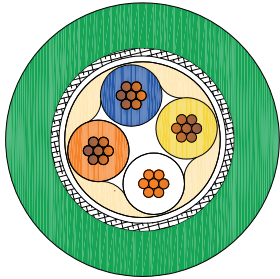
**Screen:** copper wire braid

**Sheath:** cross-linked compound type EM104 according to EN 50306-1

**Marking:** UNIKA (Italy) – EN 50306-4 "5n" (n°pairs)x(cross-section) MMS 90 – traceability code  
n: E for exposed installations or P for protected installations

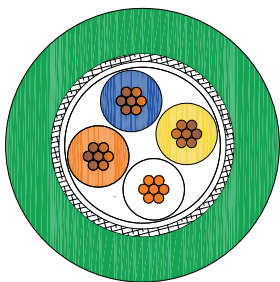
**Fire safety:** Cables are classified in compliance to the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B)

# UNIRAIL D – ETHERNET CABLE CATEGORY 5e



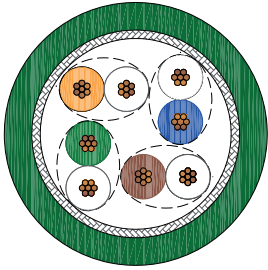
Type: **1x4x22 AWG/7 SF/UTP**  
Code: **RW100A**

CONSTRUCTION	
Conductor:	stranded bare copper wire – 22 AWG/7 (0,35 mm <sup>2</sup> )
Insulation:	solid polyethylene according to EN 50290-2-23 – max ø 1,60 mm
Insulation colours:	white ÷ blue ÷ yellow ÷ orange
Assembly of core:	Stranded to quad: • pair1 white/blue • pair2 yellow/orange
Separation:	polyester tape
Inner jacket:	Halogen-free compound
Overall shield:	aluminium/polyester tape + tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - green colour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 5e 1x4x22 AWG/7 M – <i>traceability code</i>



Type: **1x4x26 AWG/7 SF/UTP**  
Code: **RW100B**

CONSTRUCTION	
Conductor:	stranded bare copper wire – 26 AWG/7 (0,14 mm <sup>2</sup> )
Insulation:	polyolefine according to EN 50290-2-23 – max ø 1,40 mm
Insulation colours:	white ÷ blue ÷ yellow ÷ orange
Assembly of core:	Stranded to quad: • pair1 white/blue • pair2 yellow/orange
Separation:	polyester tape
Overall shield:	aluminium/polyester tape + tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1. Green colour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 5e 1x4x26AWG/7 M – <i>traceability code</i>



Type: **4x2x22 AWG/7 SF/UTP**

Code: **RW100C**

#### CONSTRUCTION

Conductor:	stranded bare copper wire – 22 AWG/7 (0,35 mm <sup>2</sup> )
Insulation:	polyolefine according to EN 50290-2-23 – max 1,05 mm
Insulation colours:	white-blue ÷ white-orange ÷ white-brown ÷ white-green
Assembly of core:	Pair stranded together : • pair1 white/blue • pair2 white/orange • pair3 white/brown • pair4 white/green
Overall shield:	aluminized non woven tape - tinned copper braid 85% coverage
Separation:	non-woven tape
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1. Green colour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 5e 4x2x22AWG/7 M – <i>traceability code</i>

Type: **4x2x26 AWG/7 SF/UTP**

Code: **RW100D**

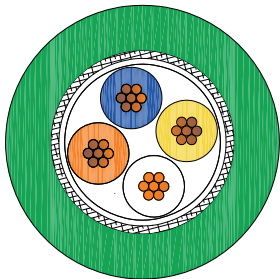
#### CONSTRUCTION

Conductor:	stranded bare copper wire – 26 AWG/7 (0,14 mm <sup>2</sup> )
Insulation:	polyolefine according to EN 50290-2-23 – max 1,05 mm
Insulation colours:	white-blue ÷ white-orange ÷ white-brown ÷ white-green
Assembly of core:	Pair stranded together : • pair1 white/blue • pair2 white/orange • pair3 white/brown • pair4 white/green
Overall shield:	aluminized non woven tape - tinned copper braid 85% coverage
Separation:	non-woven tape
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1. Green colour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 5e 4x2x26AWG/7 M – <i>traceability code</i>

Type: **4x2x24 AWG/7 SF/UTP**  
 Code: **RW100E**

CONSTRUCTION	
Conductor:	stranded bare copper wire – 24 AWG/7 (0,25 mm <sup>2</sup> )
Insulation:	polyolefine according to EN 50290-2-23 – max 1,05 mm
Insulation colours:	white-blue ÷ white-orange ÷ white-brown ÷ white-green
Assembly of core:	Pair stranded together : • pair1 white/blue • pair2 white/orange • pair3 white/brown • pair4 white/green
Overall shield:	aluminized non woven tape - tinned copper braid 85% coverage
Separation:	non-woven tape
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1. Green colour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 5e 4x2x24AWG/7 M – <i>traceability code</i>

**Fire safety:** cables are classified in compliance with the highest requirements established by hazard level H L3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B).

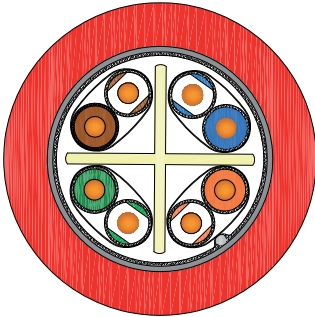


Type: **1x4x20 AWG/19 SF/UTP**  
 Code: **RW100F**

CONSTRUCTION	
Conductor:	stranded bare copper wire – 20 AWG/19 (0,50 mm <sup>2</sup> )
Insulation:	polyolefine according to EN 50290-2-23 – max ø 2,00 mm
Insulation colours:	white ÷ blue ÷ yellow ÷ orange
Assembly of core:	Stranded to quad: • pair1 white/blue • pair2 yellow/orange
Separation:	polyester tape
Overall shield:	aluminium/polyester tape + tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1. Green colour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 5e 1x4x20AWG/19 M – <i>traceability code</i>

		<b>RW100A</b> 1x4x22 AWG/7 SF/UTP	<b>RW100B</b> 1x4x26 AWG/7 SF/UTP	<b>RW100C</b> 4x2x22 AWG/7 SF/UTP	<b>RW100D</b> 4x2x26 AWG/7 SF/UTP	<b>RW100E</b> 4x2x24 AWG/7 SF/UTP	<b>RW100F</b> 1x4x20 AWG/19 SF/UTP
Max DC conductor resistance		60 Ω/km	143 Ω/km	60 Ω/km	143 Ω/km	86 Ω/km	42 Ω/km
Capacitance		53 pF/m	44 pF/m	52 pF/m	55 pF/m	51 pF/m	49 pF/m
Characteristic impedance (1÷100 MHz)		100 Ω (±15%)	100 Ω (±15%)	100 Ω (±15%)	100 Ω (±15%)	100 Ω (±15%)	100 Ω (±15%)
Voltage rating		300 V	300 V	300 V	300 V	300 V	300 V
Min insulation resistance		5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm
Nominal velocity of propagation 100MHz		67%	77%	78%	66%	77%	67%
Nominal attenuation	1 MHz	1,6 dB/100m	3,2 dB/100m	2,4 dB/100m	3,2 dB/100m	2,1 dB/100m	3,2 dB/100m
	10 MHz	5,1 dB/100m	9,5 dB/100m	7,8 dB/100m	10,0 dB/100m	6,0 dB/100m	9,5 dB/100m
	100 MHz	19,0 dB/100m	32,0 dB/100m	26,4 dB/100m	33,0 dB/100m	21,0 dB/100m	32,0 dB/100m
Nominal weight		61 kg/km	40 kg/km	105 kg/km	48 kg/km	52 kg/km	100 kg/km
Nominal diameter		6,5 mm	4,8 mm	9,3 mm	6,5 mm	6,5 mm	8,5 mm
Minimum bending radius		8 x outer ø					
Temperature range		-40 °C +90°C					

# UNIRAIL D – ETHERNET CABLE CATEGORY 5e FIRE RESISTANT



Type: **4x2x23 AWG/1 SF/UTP**

Code: **RW101A**

## CONSTRUCTION

Conductor:	solid bare copper wire – 23 AWG/1 (0,25 mm <sup>2</sup> )
Insulation:	polyethylene according to EN 50290-2-23
Insulation colours:	white-blue/blue ÷ white-orange/orange ÷ white-green/green ÷ white-brown/brown
Fire barrier	special mineral glass tape with overlap
Conductor assembly :	twisted to pairs • 1 pair white-blue/blue • 2 pair white-brown/brown • 3 pair white-green/green • 4 pair white-orange/orange
Separation:	polyester tape on each pair
Assembly elements:	pairs stranded together around a central cross separator filler
Separation:	glass fibre tape
Inner jacket:	Halogen free compound
Overall shield:	aluminium/polyester tape + tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - redcolour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 5e 4x2x23AWG/1 M – EN50200 EN50289-4-16 PH120 100MHz – <i>traceability code</i>
Standard reference	EN 50288-2-1 – EN 50289-4-16 – EN 50200



Type: **1x4x22 AWG/19 SF/UTP**

Code: **RW101B**

#### CONSTRUCTION

Conductor:	stranded bare copper wire – 22 AWG/7 (0,35 mm <sup>2</sup> )
Insulation:	solid polyethylene according to EN 50290-2-23 – max ø 1,60 mm
Insulation colours:	white ÷ blue ÷ yellow ÷ orange
Assembly of core:	Stranded to quad: • pair1 white/blue • pair2 yellow/orange
Separation:	polyester tape
Inner jacket:	Halogen-free compound
Overall shield:	aluminium/polyester tape + tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - green colour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 5e 1x4x22AWG/19 M – EN50200 EN50289-4-16 PH120 100 MHz – <i>traceability code</i>
Standard reference	EN 50288-2-1 – EN 50289-4-16 – EN 50200

		RW101A 4x2x23 AWG/1 SF/UTP	RW101B 1x4x22 AWG/19 SF/UTP
DC conductor resistance		94,2 Ω/km	60 Ω/km
Capacitance		65 pF/m	53 pF/m
Characteristic impedance		100 Ω (±15%)	100 Ω (±15%)
Voltage rating		300 V	300 V
Min insulation resistance		5,0 GΩxkm	5,0 GΩxkm
Nominal velocity of propagation 100MHz		67%	67%
Nominal Attenuation	1 MHz	1,9 dB/100m	1,6 dB/100m
	10 MHz	5,7dB/100m	5,1 dB/100m
	100 MHz	19,3 dB/100m	19,0 dB/100m
Nominal weight		75 kg/km	63 kg/km
Nominal Diameter		8,1 mm	6,8 mm
Minimum bending radius		15 x outer ø	15 x outer ø
Temperature range		-40 °C +90°C	-40 °C +90°C

**Fire safety:** cables are classified in compliance with the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B).

# UNIRAIL D – ETHERNET CABLE CATEGORY 6



Type: **4x2x23 AWG/1 SF/UTP**

Code: **RW104A**

CONSTRUCTION	
Conductor:	solid bare copper wire – 23 AWG/1 (0,25 mm <sup>2</sup> )
Insulation:	polyethylene according to EN 50290-2-23
Insulation colours:	white-blue/blue ÷ white-orange/orange ÷ white-green/green ÷ white-brown/brown
Conductor assembly :	twisted to pairs • 1 pair white-blue/blue • 2 pair white-brown/brown • 3 pair white-green/green • 4 pair white-orange/orange
Separation:	polyester tape on each pair
Assembly elements:	pairs stranded together around a central cross separator filler
Separation:	polyester tape
Overall shield:	aluminium/polyester tape + tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - green if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 6 4x2x23AWG/1 M – <i>traceability code</i>

Type: **4x2x26 AWG/7 SF/UTP**

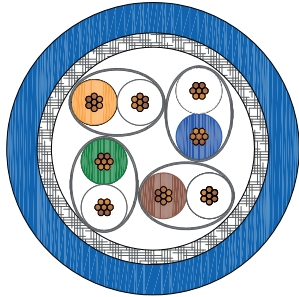
Code: **RW104B**

CONSTRUCTION	
Conductor:	stranded bare copper wire – 26 AWG/7 (0,14 mm <sup>2</sup> )
Insulation:	polyethylene according to EN 50290-2-23
Insulation colours:	white-blue/blue ÷ white-orange/orange ÷ white-green/green ÷ white-brown/brown
Conductor assembly :	twisted to pairs • 1 pair white-blue/blue • 2 pair white-brown/brown • 3 pair white-green/green • 4 pair white-orange/orange
Separation:	polyester tape on each pair
Assembly elements:	pairs stranded together around a central cross separator filler
Separation:	polyester tape
Overall shield:	aluminium/polyester tape + tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - green if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 6 4x2x26AWG/7 M – <i>traceability code</i>

	RW104A 4x2x23 AWG/1 SF/UTP	RW104B 4x2x26 AWG/7 SF/UTP
DC conductor resistance	74,5 Ω/km	142,0 Ω/km
Capacitance	48 pF/m	48 pF/m
Characteristic impedance	100 Ω (±15%)	100 Ω (±15%)
Voltage rating	300 V	300 V
Min insulation resistance	5,0 GΩxkm	5,0 GΩxkm
Nominal velocity of propagation 100MHz	75%	75%
Nominal Attenuation		
1 MHz	1,9 dB/100m	2,6 dB/100m
10 MHz	5,7 dB/100m	8,1 dB/100m
100 MHz	18,7 dB/100m	27,3 dB/100m
Nominal weight	68 kg/km	48 kg/km
Nominal Diameter	7,5 mm	6,2 mm
Minimum bending radius	8 x outer ø	8 x outer ø
Temperature range	-40 °C +90°C	-40 °C +90°C

**Fire safety:** cables are classified in compliance with the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B).

# UNIRAIL D – ETHERNET CABLE CATEGORY 7A



Type: **4x(2x26AWG/7) S/FTP**

Code: **RW102A**

## CONSTRUCTION

Conductor:	stranded bare copper wire – 26 AWG/7 (0,14 mm <sup>2</sup> )
Insulation:	foam-skin polyethylene according to EN 50290-2-23 – max ø 1,05 mm
Pair colours:	blue/white ÷ orange/white ÷ green/white ÷ brown/white
Pair screen:	aluminium/polyester tape
Assembling:	shielded pairs stranded together
Overall shield:	tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - bluecolour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 7A 4x(2x26AWG/7) M – <i>traceability code</i>

Type: **4x(2x24AWG/7) S/FTP**

Code: **RW102B**

## CONSTRUCTION

Conductor:	stranded bare copper wire – 24 AWG/7 (0,22 mm <sup>2</sup> )
Insulation:	foam-skin polyethylene according to EN 50290-2-23 – max ø 1,50 mm
Pair colours:	blue/white ÷ orange/white ÷ green/white ÷ brown/white
Pair screen:	aluminium/polyester tape (outside aluminium surface)
Assembling:	shielded pairs stranded together
Overall shield:	tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - bluecolour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 7A 4x(2x24/7AWG) M – <i>traceability code</i>

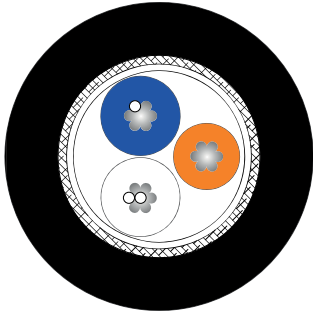
Type: **4x(2x23AWG/7) S/FTP**  
 Code: **RW102C**

CONSTRUCTION	
Conductor:	stranded bare copper wire – 23 AWG/7 (0,26 mm <sup>2</sup> )
Insulation:	foam-skin polyethylene according to EN 50290-2-23 – max ø 1,55 mm
Pair colours:	blue/white ÷ orange/white ÷ green/white ÷ brown/white
Pair screen:	aluminium/polyester tape (outside aluminium surface)
Assembling:	shielded pairs stranded together
Overall shield:	tinned copper braid 85% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - blue colour if not otherwise stated
Marking:	UNIKA (Italy) – Ethernet Cable Category 7A 4x(2x23/7AWG) M – <i>traceability code</i>

	RW102A 4x(2x26AWG/7) S/FTP	RW102B 4x(2x24AWG/7) S/FTP	RW102C 4x(2x23AWG/7) S/FTP
DC conductor resistance	143,0 Ω/km	84,0 Ω/km	72,0 Ω/km
Capacitance	44 pF/m	42pF/m	42pF/m
Characteristic impedance	100 Ω (±15%)	100 Ω (±15%)	100 Ω (±15%)
Voltage rating	125 V	125 V	125 V
Min insulation resistance	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm
Nominal velocity of propagation 100MHz	77%	75 %	75%
Transfer Impedance 1 MHz	6 mΩ/m	10 mΩ/m	10 mΩ/m
10 MHz	3 mΩ/m	10 mΩ/m	10 mΩ/m
30 MHz	2 mΩ/m	30 mΩ/m	30 mΩ/m
Nominal attenuation 10 MHz	8,4dB/100m	5,9dB/100m	5,6dB/100m
100 MHz	26,2dB/100m	19,8dB/100m	19,0dB/100m
250 MHz	42,5 dB/100m	32,2dB/100m	30,7dB/100m
600 MHz	67,8dB/100m	51,7dB/100m	49,1 dB/100m
Nominal weight	46 kg/km	60 kg/km	64 kg/km
Nominal diameter	6,4 mm	8,2 mm	8,4 mm
Minimum bending radius		8 x outer ø	
Temperature range		-40 °C +90°C	
Standard reference		EN 50288-4-2	

**Fire safety:** cables are classified in compliance with the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B).

# UNIRAIL D – RS485 and BUS cables



Type: **1x2x22 AWG/7 + 1x22 AWG/7 (1x2x0,35 + 1x0,35)**

Code: **RW103A**

## CONSTRUCTION

### DATA PAIRS:

Conductor: stranded tinned copper wire – 22 AWG/7 (0,35 mm<sup>2</sup>)

Insulation: foam skin solid polyethylene according to EN 50290-2-23

Insulation colours: white ÷ blue

Assembly of core: twisted pair

### POWER ELEMENTS:

Conductor: stranded bare copper wire – 22 AWG/7 (0,35 mm<sup>2</sup>)

Insulation: solid polyethylene according to EN 50290-2-23

Insulation colours: orange

Assembly: Data pair and signal conductor stranded together

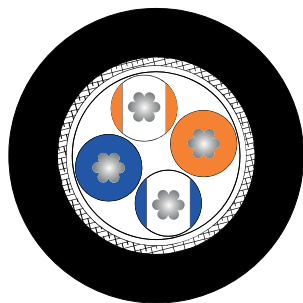
Overall shield: tinned copper braid 90% coverage

Outer jacket: crosslinked compound, type EM104 according to standard EN 50264-1 - black colour if not otherwise stated

Marking: UNIKA (Italy) – RS485(1x2x0,35+1x0,35) M – *traceability code*

Type: **1x2x20 AWG/7 + 1x20 AWG/7 (1x2x0,50 + 1x0,50)**  
 Code: **RW103BZ**

CONSTRUCTION	
DATA PAIRS:	
Conductor:	stranded tinned copper wire – 20 AWG/7 (0,50 mm <sup>2</sup> )
Insulation:	foam skin solid polyethylene according to EN 50290-2-23
Insulation colours:	white ÷ red
Assembly of core:	twisted pair
POWER ELEMENTS:	
Conductor:	stranded bare copper wire – 20 AWG/7 (0,50 mm <sup>2</sup> )
Insulation:	solid polyethylene according to EN 50290-2-23
Insulation colours:	black
Assembly:	Data pair and signal conductor stranded together
Overall shield:	tinned copper braid 90% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - black colour if not otherwise stated
Marking:	UNIKA (Italy) – RS485 (1x2x0,50+1x0,50) M – <i>traceability code</i>

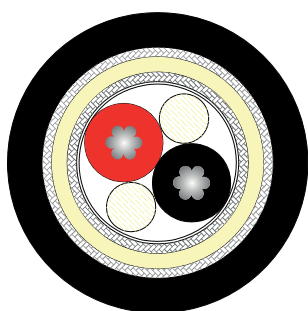


Type: **2x2x22 AWG/7 (2x2x0,34 mm<sup>2</sup>)**  
 Code: **RW103EZ**

CONSTRUCTION	
DATA PAIRS:	
Conductor:	stranded tinned copper wire – 22 AWG/7 (0,35 mm <sup>2</sup> )
Insulation:	foam skin solid polyethylene according to EN 50290-2-23
Insulation colours:	(White-blue ÷ blue) (Orange-white÷orange)
Assembly of core:	twisted pair
Overall shield:	tinned copper braid 90% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - black colour if not otherwise stated
Marking:	UNIKA (Italy) – RS485 (2x2x0,34) M – <i>traceability code</i>

Type: **2x2x20 AWG/7 AWG (2x2x0,50 mm<sup>2</sup>)**  
 Code: **RW103F**

CONSTRUCTION	
Conductor:	stranded tinned copper wire – 20 AWG/7 (0,50 mm <sup>2</sup> )
Insulation:	foam skin solid polyethylene according to EN 50290-2-23
Pair colours:	white/red ÷ black/blu
Assembly of core:	star quad and tape assembled together
Overall shield:	tinned copper braid 90% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - black colour if not otherwise stated
Marking:	UNIKA (Italy) –RS485 (2x2x0,50) M – <i>traceability code</i>

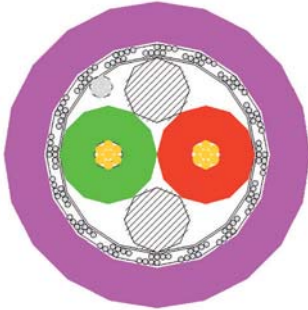


Type: **2x19 AWG/7 (2x0,60 mm<sup>2</sup>)**  
 Code: **RW105B**

CONSTRUCTION	
Conductor:	stranded tinned copper wire – 22/7 AWG (0,60 mm <sup>2</sup> )
Insulation:	foam skin solid polyethylene according to EN 50290-2-23
Pair colours:	red/white
Assembly of core:	twisted pair
1 <sup>st</sup> shield:	tinned copper braid 90% coverage
Inner jacket	crosslinked compound, type EM104 according to standard EN 50264-1
2 <sup>nd</sup> shield:	tinned copper braid 90% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 - Black colour if not otherwise stated
Marking:	UNIKA (Italy) – RS485 (2x0,60) M – <i>traceability code</i>

	RW103A 1x2x22/7 + 1x22/7 1x2x0,35+1x0,35	RW103BZ 1x2x20/7 + 1x20/7 1x2x0,50+1x0,50	RW103F 2x2x20/7 2x2x0,50	RW105B 2x19/7 AWG 2x0,60	RW103EZ 2x2x22 AWG 2x2x0,34
DC conductor resistance	≤ 55 Ω/km	≤ 40,1 Ω/km	≤ 40,1 Ω/km	≤ 32,2 Ω/km	≤ 55 Ω/km
Capacitance	46 pF/m (data pair)	46 pF/m (data pair)	46 pF/m	50 pF/m	46 pF/m
Characteristic impedance (0,75÷3 MHz)	120 Ω (±10%)	120 Ω (±10%)	120 Ω (±10%)	120 Ω (±5%)	120 Ω (±10%)
Voltage rating	300 V	300 V	300 V	300 V	300 V
Min insulation resistance	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm	5,0 GΩxkm
Nominal velocity of propagation 100MHz	77%	77%	77%	77%	77%
Nom attenuation 1 MHz	1,6 dB/100 m	1,3 dB/100 m	1,3 dB/100 m		2,0 dB/100 m
2 MHz		1,8 dB/100 m	1,8 dB/100 m		
3 MHz		2,3 dB/100 m	2,3 dB/100 m		
0,2 MHz				0,6 dB/100 m	
Nominal weight	50 kg/km	68 kg/km	90 kg/km	125 kg/km	47 kg/km
Nominal diameter	7,6 mm	8,4 mm	9,0 mm	9,0 mm	7,4 mm
Minimum bending radius	8 x outer ø	8 x outer ø	8 x outer ø	8 x outer ø	8 x outer ø
Temperature range	-40 °C +90°C	-40 °C +90°C	-40 °C +90°C	-40 °C +90°C	-40 °C +90°C

**Fire safety:** cables are classified in compliance with the highest requirements established by hazard level HL3 into Standard EN 45545-2 for indoor cables (EL1A) and outdoor cables (EL1B).



Type: **1x2x0,64/7 (AWG22)**

Code: **RW103D**

#### CONSTRUCTION

Conductor:	stranded bare copper wire – 22/7 AWG (0,60 mm <sup>2</sup> )
Insulation:	foam skin solid polyethylene according to EN 50290-2-23
Pair colours:	red/green
Assembly of core:	twisted pair + drain wire + fillers and tape are assembled together
Overall shield:	tinned copper braid 90% coverage
Outer jacket:	crosslinked compound, type EM104 according to standard EN 50264-1 violet colour if not otherwise stated
Marking:	UNIKA (Italy) – PROFIBUS (1x2x0,64) M – <i>traceability code</i>

#### 1x2x0,64 Profibus

DC conductor resistance	≤ 57,5 Ω/km
Capacitance	≤ 30 pF/m
Characteristic impedance (0,25÷10 MHz)	150 Ω (±10%)
Voltage rating	300 V
Min insulation resistance	5,0 GΩxkm
Nominal velocity of propagation 100MHz	77%
Nom attenuation 0,25 MHz	0,6 dB/100 m
0,625 MHz	0,9 dB/100 m
1,25 MHz	1,4 dB/100 m
3,125 MHz	2,3 dB/100 m
16 MHz	4,7 dB/100 m
Nominal weight	75 kg/km
Maximum diameter	8,0 mm
Minimum bending radius	4 x outer ø
Temperature range	-40 °C +90°C



## **MASS TRANSIT CABLES FOR RFI INSTALLATIONS**

<b>Single and multicore signalling PVC cables for RFI installations</b>	<b>60</b>
<b>Multicore signalling halogen-free cables for outdoor installations according to RFI specifications</b>	<b>61</b>
<b>Single and multicore signalling halogen-free cables for internal installations according to RFI specifications</b>	<b>64</b>
<b>Single and multicore, halogen-free power cables for outdoor installations according to RFI specifications</b>	<b>66</b>
<b>Single and multicore, halogen-free, fire resistant, power cables for outdoor installations according to RFI specifications</b>	<b>67</b>

# Single and multicore signalling PVC cables for RFI installations

Item n°	Cross-section [mm <sup>2</sup> ]	Maximum diameter [mm]	RFI item and colour
R0101	1x0,60	1,75	804/915 black
R0102	1x0,93	2,05	804/916 black
R0103	21x0,60	11,0	804/917 grey
R0104	7x0,93	8,0	804/918 grey
R0105	13x0,93	10,5	804/919 grey
R0106	21x0,93	13,0	804/920 grey
R0107	21x0,93	13,0	804/921 green
R0108	3x2,5	8,8	804/922 red
R0109	10x2,5	14,2	804/923 red
R0110	10x4	16,5	804/924 red

Item n°	Cross-section [mm <sup>2</sup> ]	Maximum diameter [mm]	RFI item and colour
R0111	1x16	1,75	804/236 red
R0112	1x16	2,05	804/237 yellow
R0113	20x1	13,0	804/247 grey

## CONSTRUCTION ACCORDING TO IS400

**Conductor:** bare copper conductor

**Insulation:** PVC compound at high insulation resistance rated 105°C

**Sheath:** PVC compound type R<sub>2</sub> according to CEI 20-11

**Marking:** no marking required

**Fire safety:** CEI EN 60332-1-2

## CONSTRUCTION ACCORDING TO CEI-UNEL

### SINGLE CORE:

**Conductor:** special bare copper conductor according to class 5 CEI EN 60228 construction (7x18x0,41)

**Insulation:** PVC compound type TI2 according to CEI EN 50525

### Marking:

UNIKA (Italy) - cat.804/236 - H07V-K 1x16 IEMMEQU <HAR> - "traceability code" - CE

UNIKA (Italy) - cat.804/237 - 07V-K 1x16 - "traceability code" - CE

### MULTICORE:

**Conductor:** bare copper conductor according to class 5 CEI EN 60228

**Insulation:** PVC compound type TI2 according to CEI EN 50525

**Sheath:** PVC compound type TM2 according to CEI EN 50525

**Marking:** UNIKA (Italy) - cat.804/247 - 05VV-F 20x1 300/500V - "traceability code" - CE

**Fire safety:** CEI EN 60332-1-2

# Multicore signalling halogen-free cables for outdoor installations according to RFI specifications

Item n°	Cross-section [mm <sup>2</sup> ]	Maximum diameter [mm]	RFI item
R0401	2x1	12,7	804/302
R0402	4x1	14,0	804/304
R0403	6x1	16,6	804/306
R0404	8x1	17,5	804/308
R0405	12x1	20,5	804/312
R0406	16x1	22,6	804/316
R0407	30x1	28,1	804/330
R0408	2x2,5	15,3	804/348
R0409	4x2,5	17,0	804/350
R0410	1x4	11,2	804/352
R0411	2x4	16,2	804/354
R0412	3x4	17,0	804/356
R0413	3x6	18,2	804/360
R0414	3x10	21,8	804/359
R0415	3x16	24,5	804/361
R0416	4x1,5	15,2	804/334
R0417	8x1,5	19,5	804/338
R0418	16x1,5	27,0	804/344

## CONSTRUCTION ACCORDING TO IS409 ED. 1988

**Conductor:** tinned copper conductor according to CEI EN 60228. Class 1 for cross-sections 1, 2,5, 4 and 6 mm<sup>2</sup>. Class 2 for cross-sections 10 and 16 mm<sup>2</sup>. Class 6 for cross-section 1,5 mm<sup>2</sup>.

**Insulation:** halogen free compound type G10 according to CEI 20-11  
**Inner sheath:** halogen free compound type G10 according to CEI 20-11

**Sheath:** halogen free compound type M2 according to CEI 20-11, colour black

**Marking:** UNIKA(Italy) – “RFI item” – “cond. number”x”cross-section”– EFSAT – year – “traceability code” – “meter marking”

**Rated voltage:** 450/750 V

**Fire safety:** CEI EN 60332-1-2, CEI EN 60332-3-24, CEI 20-37

Item n°	Cross-section [mm <sup>2</sup> ]	Maximum diameter [mm]	RFI item
R0420	4x1	14,0	804/510
R0421	8x1	17,5	804/512
R0422	16x1	22,6	804/514
R0423	2x2,5	15,3	804/516
R0424	4x2,5	17,0	804/518
R0425	2x4	16,2	804/520
R0426	3x4	17,0	804/522
R0427	2x6	17,4	804/524
R0429	3x6	18,2	804/526
R0430	3x10	21,8	804/528
R0431	3x16	24,5	804/530
R0432	3x25	28,2	804/532
R0433	4x1,5	15,2	804/534
R0434	8x1,5	19,5	804/536
R0435	16x1,5	27,0	804/538

## CONSTRUCTION ACCORDING TO IS409 REV. C – NON ARMoured TYPES

**Conductor:** tinned copper conductor according to CEI EN 60228. Class 1 for cross-sections 1, 2,5, 4 and 6 mm<sup>2</sup>. Class 2 for cross-sections 10, 16 and 25 mm<sup>2</sup>. Class 6 for cross-section 1,5 mm<sup>2</sup>.

**Insulation:** halogen free compound type G10 according to CEI 20-11

**Bedding:** halogen free compound type G10 according to CEI 20-11

**Sheath:** halogen free compound type M2 according to CEI 20-11, colour black

**Marking:** UNIKA(italy) – “RFI item” – “cond. number”x”cross-section” – EFSAT – year – “traceability code” – “meter marking”

**Rated voltage:** 450/750 V

**Fire safety:** CEI EN 60332-1-2, CEI EN 60332-3-24, CEI 20-37

Item n°	Cross-section [mm²]	Maximum diameter [mm]	RFI item
R0440	4x1	19,0	804/511
R0441	8x1	22,5	804/513
R0442	16x1	27,0	804/515
R0443	2x2,5	20,3	804/517
R0444	4x2,5	23,0	804/519
R0445	2x4	21,2	804/521
R0446	3x4	23,0	804/523
R0447	2x6	22,4	804/525
R0448	3x6	23,2	804/527
R0449	3x10	26,8	804/529
R0450	3x16	29,5	804/531
R0451	3x25	33,0	804/533
R0452	4x1,5	20,2	804/535
R0453	8x1,5	24,5	804/537
R0454	16x1,5	33,0	804/539

## CONSTRUCTION ACCORDING TO IS409 REV. C – ARMURED TYPES

**Conductor:** tinned copper conductor according to CEI EN 60228. Class 1 for cross-sections 1, 2,5, 4 and 6 mm². Class 2 for cross-sections 10, 16 and 25 mm². Class 6 for cross-section 1,5 mm².

**Insulation:** halogen free compound type G10 according to CEI 20-11

**Bedding:** halogen free compound type G10 according to CEI 20-11

**Inner sheath:** halogen free compound type M2 according to CEI 20-11, colour black

**Armour:** double steel tape

**Sheath:** halogen free compound type M1 according to CEI 20-11, colour black

**Marking:** UNIKA(Italy) – “RFI item” – “cond. number”x“cross-section” – EFSAT – year – “traceability code” – “meter marking”

**Rated voltage:** 450/750 V

**Fire safety:** CEI EN 60332-1-2, CEI EN 60332-3-24, CEI 20-37

# Single and multicore signalling halogen-free cables for internal installations according to RFI specifications

Item n°	Cross-section [mm <sup>2</sup> ]	Maximum diameter [mm]	RFI item and colour
R0201	1x0,60	2,3	804/268 black
R0202	1x0,93	2,5	804/269 black
R0203	1x2,5	3,8	804/270 black
R0204	1x4	4,3	804/271 black
R0205	21x0,60	13,9	804/272 grey
R0206	7x0,93	9,7	804/273 grey
R0207	13x0,93	13,0	804/274 grey
R0208	21x0,93	15,5	804/275 grey
R0209	21x0,93	15,5	804/276 green
R0210	3x2,5	9,8	804/277 red
R0211	10x2,5	17,3	804/278 red
R0212	10x4	19,6	804/279 red

## CONSTRUCTION ACCORDING TO IS412

**Conductor:** bare copper conductor according to class 5 CEI EN 60228

**Insulation:** halogen free compound type G9 for single core and type G10 for multicore according to CEI 20-11

**Sheath:** halogen free compound type M1 according to CEI 20-11

**Marking:** UNIKA(Italy) –“RFI item”–EF-SATxx

(xx: last two digit of production year)

### Rated voltage:

Cross-sections 2,5 and 4 mm<sup>2</sup> 450/750 V

Cross-sections 0,6 and 0,93 mm<sup>2</sup> 300/500 V

**Fire safety:** CEI EN 60332-1-2, CEI EN 60332-3-24, CEI 20-37

Item n°	Cross-section [mm <sup>2</sup> ]	Maximum diameter [mm]	RFI item and colour
R0601	1x0,5	2,8	804/250 black
R0602	1x1	3,2	804/251 black
R0603	1x1,5	3,5	804/252 black
R0604	1x2,5	4,2	804/254 black
R0605	1x4	4,8	804/256 black
R0606	1x6	6,3	804/258 black
R0607	5x0,5	10,0	804/260 black
R0608	12x0,5	13,0	804/262 black
R0609	20x0,5	16,0	804/264 black
R0610	20x1	18,0	804/266 black

## CONSTRUCTION ACCORDING TO IS411

**Conductor:** tinned copper conductor according to class 5 CEI EN 60228

**Insulation:** halogen free compound type G9 for single core or G10 for multicore according to CEI 20-11

**Sheath:** halogen free compound type M1 according to CEI 20-11

**Marking:** UNIKA(Italy) – “RFI item” –EF-SATxx  
(xx: last two digit of production year)

**Rated voltage:**  
single core 450/750 V  
multi core 300/500 V

**Fire safety:** CEI EN 60332-1-2, CEI EN 60332-3-24, CEI 20-37

# Single and multicore, halogen-free power cables for outdoor installations according to RFI specifications

Item n°	Cross-section [mm <sup>2</sup> ]	Maximum diameter [mm]	RFI item
R0501	1x10	12,6	803/250
R0502	1x16	14,0	803/251
R0503	1x25	15,7	803/252
R0504	1x35	20,3	803/253
R0505	1x70	22,6	803/254
R0506	1x95	25,2	803/255
R0507	1x120	27,9	803/256
R0508	1x150	30,1	803/257
R0509	2x6	17,6	803/258
R0510	2x10	19,7	803/259
R0511	2x16	22,2	803/260
R0512	2x25	26,6	803/261
R0513	3x2,5	15,2	803/262
R0514	3x10	22,0	803/263
R0515	3x16	24,2	803/264
R0516	3x25	27,9	803/265
R0517	3x35	30,4	803/266
R0518	3x50	33,6	803/267
R0519	3x95	43,1	803/268
R0520	3x120	46,9	803/269
R0521	3x150	51,8	803/270
R0522	4x2,5	17,1	803/271
R0523	4x4	18,5	803/272
R0524	4x6	20,5	803/273
R0525	4x25	30,3	803/274
R0526	3x35 + 25	32,5	803/275
R0527	3x50 + 25	36,0	803/276

## CONSTRUCTION ACCORDING TO TE 652 AND CEI 20-38

**Conductor:** tinned copper conductor according to CEI EN 60228. Class 5 for cross-sections up to 10 mm<sup>2</sup> in multicore cables. Class 5 for all single core cables. Class 2 for cross-sections from 16 mm<sup>2</sup> in multicore core cables

**Insulation:** halogen free compound type G10 according to CEI 20-11

**Sheath:** halogen free compound type M1 according to CEI 20-11, colour black

**Marking:** UNIKA(Italy) – "RFI item" – EFSAT – year

**Rated voltage:** 0,6/1 kV

**Fire safety:** CEI EN 60332-1-2, CEI EN 60332-3-24, CEI 20-37

# Single and multicore, halogen-free, fire resistant, power cables for outdoor installations according to RFI specifications

Item n°	Cross-section [mm <sup>2</sup> ]	Maximum diameter [mm]	RFI item
R0301	1x1,5	6,4	803/200
R0302	1x2,5	7,0	803/201
R0303	1x4	7,4	803/202
R0304	1x6	9,0	803/203
R0305	1x10	10,0	803/204
R0306	1x16	10,5	803/205
R0307	1x25	12,5	803/206
R0308	1x35	14,0	803/207
R0309	1x50	16,0	803/208
R0310	2x1,5	12,0	803/209
R0311	2x2,5	13,0	803/210
R0312	2x4	14,0	803/211
R0313	2x6	16,0	803/212
R0314	2x10	18,5	803/213
R0315	2x16	19,5	803/214
R0316	2x25	23,5	803/215
R0317	3x1,5	13,0	803/216
R0318	3x2,5	14,0	803/217
R0319	3x4	15,0	803/218
R0320	3x6	17,0	803/219
R0321	3x10	20,0	803/220
R0322	3x16	21,5	803/221
R0323	3x25	25,0	803/222
R0324	4x1,5	14,0	803/223
R0325	4x2,5	15,0	803/224
R0326	4x4	16,5	803/225
R0327	4x6	19,0	803/226
R0328	4x10	22,0	803/227
R0329	4x16	23,5	803/228
R0330	4x25	27,5	803/229

## CONSTRUCTION ACCORDING TO TE 653 AND CEI 20-45

**Conductor:** tinned copper conductor according to CEI EN 60228 class 5

**Insulation:** mica tape(s) and halogen free compound type G10 according to CEI 20-11

**Sheath:** halogen free compound type M1 according to CEI 20-11, colour blue

**Marking:** UNIKA(Italy) – “RFI item” – EF-SATRF – year

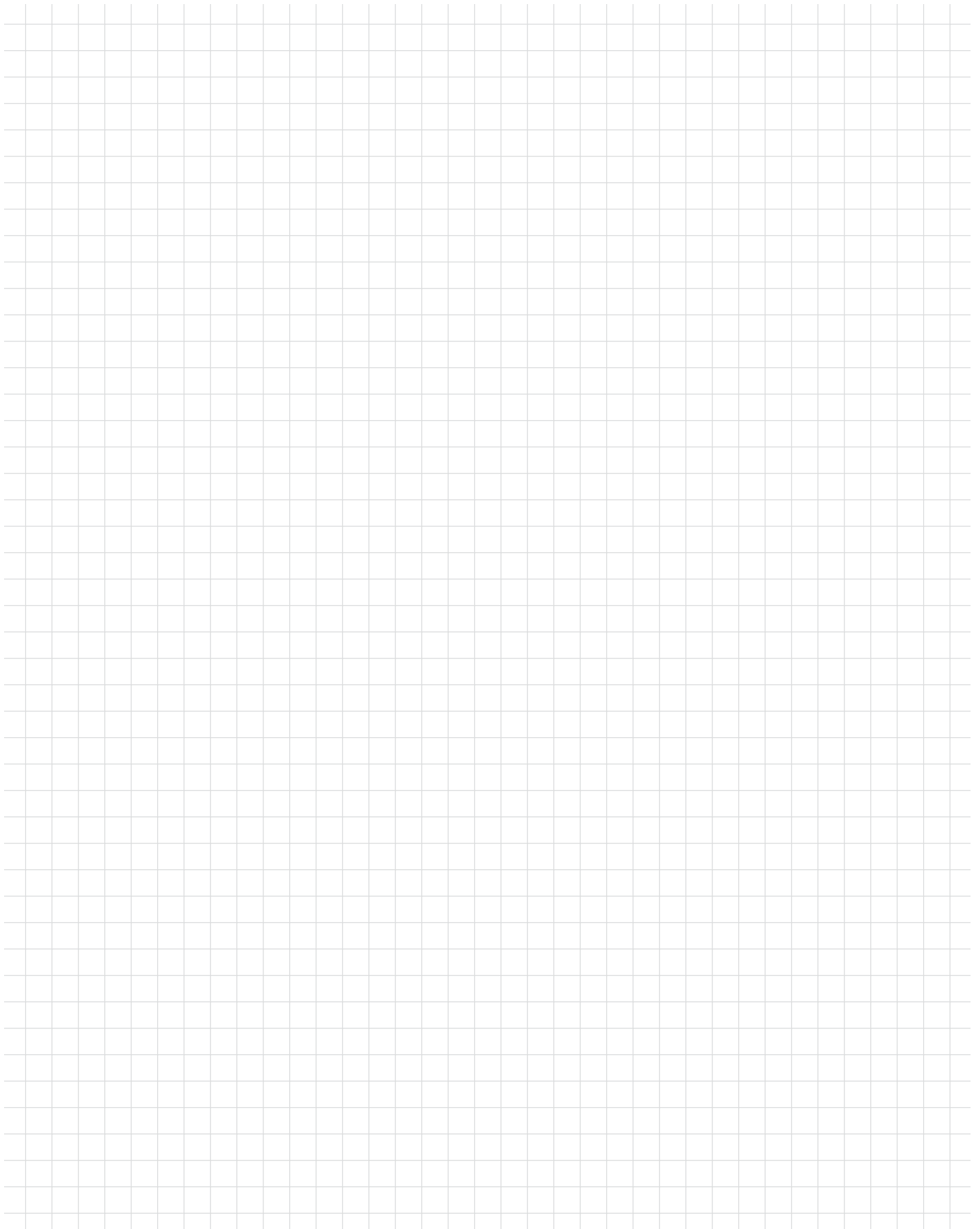
**Rated voltage:** 0,6/1 kV

**Fire safety:** CEI EN 60332-1-2, CEI EN 60332-3-24, CEI 20-37, EN 50200

## Note

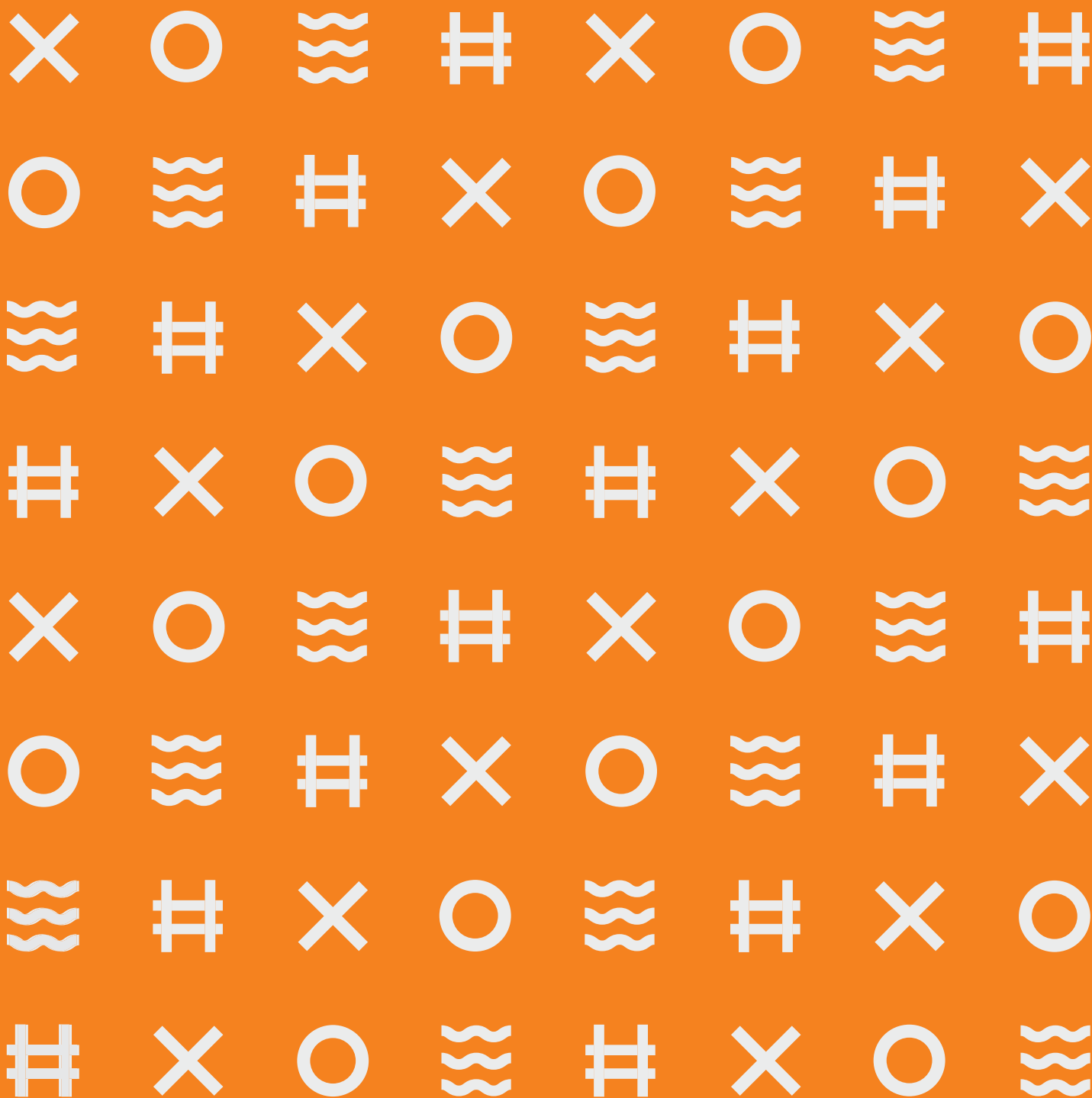
A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.

## Note



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