



CERTIFICATE FI 22251

Our Ref. 239946-1A, -1B

Product PVC-sheathed cable

Type MMJ

Trade mark TF KABLE 4

**Certificate Holder/
Manufacturer** TELE-FONIKA KABLE S.A
ul. Hipolita Cegielskiego 1
PL 32-400 MYSLENICE
POLAND

Technical information Number and nominal cross-sectional area of conductors:
MMJ 2-5 x 1,5-2,5 mm²
MMJ 2-5 x 4-25 mm²

Other information MMJ 2-5 x 1,5-2,5 mm², rated voltage 300/500 V
MMJ 2-5 x 4-25 mm², rated voltage 450/750 V

**The product is certified
according to the
following standard(s)** SFS 2091:1998

Validity This certificate is valid until 31 December 2010 unless the standard in question has been amended or superseded with significant changes in requirements, in which case, SGS Fimko has the right to shorten the validity of the certificate based on the legislation of the European Union. This certificate includes the right to use the FI mark under the condition that changes (if any) will be checked at SGS Fimko before the product is brought onto market and that the conditions for FI certification are met.

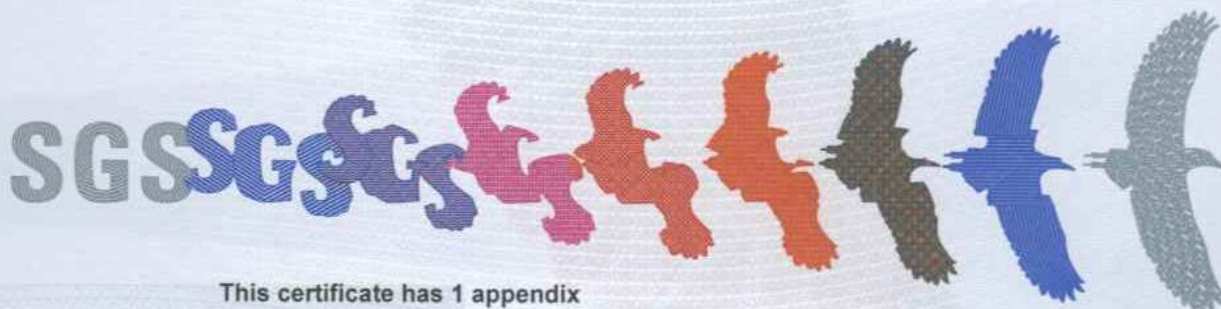
Directive information The product(s) fulfils the essential safety requirements for CE conformity marking according to the Low Voltage Directive (73/23/EEC and 93/68/EEC) at the date of issue of the certificate.

Date of issue 22 November 2005

SGS Fimko Ltd

Signature

Timo Peltonen
Specialist, Product Certification



This certificate has 1 appendix

Appendix to Certificate: 22251

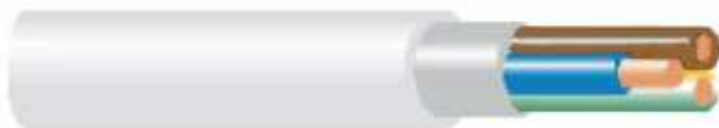
Manufacturing site

TELE-FONIKA KABLE S.A
Factory Szczecin ul. Kablowa 1
PL 70-895 SZCZECIN, POLAND

MMJ 300/500V and 450/750V



HD 21.4 S2
SFS 2091



PVC-sheathed cables for power installation

Construction

Conductors:	solid class 1 for 1,5 and 2,5 mm ² , the other cross-sectional area stranded class 2 plain copper acc. to EN 60228
Insulation:	special PVC compound type T11
Filling:	not vulcanized rubber compound
Sheath:	special PVC compound type TM1
Colour of sheath:	white
Core identification:	acc. to HD 308 S2 or acc. to SFS 2091

Core identification HD 308 S2

	with protective conductor (S)	without protective conductor (N)
twin	-	blue, brown
3-core	green/yellow, blue, brown	brown, black, grey
4-core	green/yellow, brown, black, grey	blue, brown, black, grey
5-core	green/yellow, blue, brown, black, grey	blue, brown, black, grey, black

Maximum conductor operating temperature: +70°C

Lowest recommended temperature during laying: -15°C

Maximum short-circuit conductor temperature: +160°C

Flame retardant: EN 60332-1-2

The product is conformed with the RoHS Direktive 2002/95/CE, Low-Voltage Direktive 73/23/EEC and 93/68/ECC

Minimum bending radius: 10 x cable diameter

Application: For fixed installation. Usable in the open, in dry, damp and wet environments. The cable can however also be used outdoor, because it fulfil the requirements in SFS 2091 for installation at low temperature.

Standard length cable packing: 100 m coils or 500 m on drums. Other forms of packing and delivery are available on request.

MMJ 300/500V and 450/750V



MMJ 300/500V acc. to HD 21.4 and SFS 2091

Number and cross-sectional area of conductor	Nominal thickness of insulation	Nominal thickness of sheath	Approximate overall diameter	Approximate net weight	Maximum conductor resistance at 20°C
n x mm ²	mm	mm	mm	kg/km	Ω/km
2 x 1,5	0,7	1,2	8,7	117	12,1
2 x 2,5	0,8	1,2	9,9	159	7,41
3 x 1,5	0,7	1,2	9,1	135	12,1
3 x 2,5	0,8	1,2	10,4	187	7,41
3 x 4	0,8	1,2	12,1	266	4,61
4 x 1,5	0,7	1,2	9,9	160	12,1
4 x 2,5	0,8	1,2	11,3	224	7,41
4 x 4	0,8	1,4	13,5	333	4,61
5 x 1,5	0,7	1,2	10,7	192	12,1
5 x 2,5	0,8	1,2	12,2	270	7,41
5 x 4	0,8	1,4	15,1	421	4,61
5 x 6	0,8	1,4	16,6	550	3,08
5 x 10	1,0	1,4	19,6	825	1,83
5 x 16	1,0	1,6	23,2	1223	1,15

MMJ 450/750V acc. to SFS 2091

2 x 4	0,8	1,5	12,0	238	4,61
2 x 6	0,8	1,5	12,7	289	3,08
2 x 10	1,0	1,5	15,8	460	1,83
2 x 16	1,0	1,6	18,0	641	1,15
2 x 25	1,2	1,6	21,8	973	0,727
2 x 35	1,2	1,7	24,1	1249	0,524
3 x 4	0,8	1,5	12,7	282	4,61
3 x 6	0,8	1,5	13,4	349	3,08
3 x 10	1,0	1,5	16,7	559	1,83
3 x 16	1,0	1,6	19,4	813	1,15
3 x 25	1,2	1,7	23,3	1216	0,727
3 x 35	1,2	1,7	25,6	1564	0,524
4 x 4	0,8	1,5	13,7	339	4,61
4 x 6	0,8	1,5	15,0	441	3,08
4 x 10	1,0	1,6	18,4	691	1,83
4 x 16	1,0	1,7	21,4	1008	1,15
4 x 25	1,2	1,7	25,9	1532	0,727
4 x 35	1,2	1,8	28,7	1990	0,524
5 x 4	0,8	1,5	15,3	427	4,61
5 x 6	0,8	1,5	16,3	534	3,08
5 x 10	1,0	1,7	20,2	851	1,83
5 x 16	1,0	1,7	23,4	1233	1,15
5 x 25	1,2	1,8	28,6	1892	0,727
5 x 35	1,2	1,8	31,8	2485	0,524