

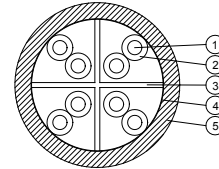
Uppgjord (även faktaans varig om annan) - Prepared (also subject responsible if other)		Nr - No.	
ECA/RIC ECAHN		1301-TEL 301 5020 Uen	
Dokans v Godk - Doc respons/Approved	Kontr - Checked	Datum - Date	Rev
ECA/RIC (Niklas Ramström)		2011-11-24	D
		File	

HALOGEN FREE UTP CATEGORY 6 CABLE FOR INDOOR USE.

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GENERAL

Product code TEL 301 5020/004
 Application 100Ω specified to 250 MHz.
 Fire requirement UL 1685 CM
 Classification UL 444 LISTED



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DIMENSIONS AND MATERIAL PROPERTIES

Pos	Item		Limit	Value	Test method	Unit
	Number of pairs			4		
1	Conductor solid bare CU wire (23 AWG).	∅	Nom.	0.57	IEC 60189-1	mm
2	Foam skinned polypropylene.	∅	Nom.	0.9 ± 0.1	IEC 60189-1	mm
3	Filler plastic cross					
4	Wrapping plastic foil (optional)	t	Nom.	0.02		mm
5	Sheath FRPE	∅	Av. g.	6.5 ± 0.5	IEC 60189-1	mm
	Wall thickness	t	Nom.	0.75		

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COLOURS OF INSULATION ACCORDING TO IEC 60189-2

Pair no	1	2	3	4
A core	White	White	White	White
B core	Blue	Orange	Green	Brown

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SHEATH MARKING

Marking on sheath shall be twice per metre if not otherwise is stated.
 Sheath colour grey RAL7001 and marking colour blue or black.

NAME XXXX YYWW PRODUCT CODE FIRE RATING PAIR GAUGE TEMP LENGTH

NAME ERICSSON.
 XXXX Identification code for manufacturing plant.
 YYWW Year and week of manufacture, e.g. 1003. once per metre.
 PRODUCT CODE ERICSSON product code.
 FIRE RATING Type of fire rating cable shall comply with.
 PAIR Number of pairs.
 GAUGE Dimension of conductor in AWG.
 TEMP Maximum operation temperature for cable in degrees Celsius.
 LENGTH Sequential length markers once per metre, continuous length marking is allowed.

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5 ELECTRICAL, MECHANICAL AND ENVIRONMENTAL PROPERTIES

All measurements are to be performed at 20°C unless otherwise stated in the table below.

Characteristic	Freq. (f)	Unit	Test method	Limit	Value	Unit
Resistance conductor		DC	IEC 60189-1	Max	72	mΩ/m
Resistance unbalance		DC	IEC 60708-1	Max	2	%
Capacitance mutual	1	kHz	IEC 60189-1	Nom	46	pF/m
Capacitance unbalance	1	kHz	IEC 60189-1	Max	150	pF/500m
Insulation Resistance		DC	IEC 60189-1	Min	5000	MΩkm
Dielectric strength cond.-cond.		DC	IEC 60189-1	Min	2.5	kV 2sec
Characteristic impedance	100	MHz	IEC 61156-1		100 ± 5	Ω
Return loss	4-10	MHz	IEC 61156-1	Min	20 + 5*log ₁₀ (f/f ₀)	dB
	10-20	MHz	IEC 61156-1	Min	25	dB
	20-250	MHz	IEC 61156-1	Min	25 - 7*log ₁₀ (f/f ₀ *20)	dB
Velocity of propagation	4-250	MHz	IEC 61156-1	Min	0.18	Gm/s
Delay skew	4-125	MHz	IEC 61156-1	Max	0.45	ns/m
Attenuation	4	MHz	IEC 61156-1	Max	3.8	dB/100m
	10	MHz	IEC 61156-1	Max	6.0	dB/100m
	16	MHz	IEC 61156-1	Max	7.6	dB/100m
	20	MHz	IEC 61156-1	Max	8.5	dB/100m
	31.25	MHz	IEC 61156-1	Max	10.8	dB/100m
	62.5	MHz	IEC 61156-1	Max	15.5	dB/100m
	100	MHz	IEC 61156-1	Max	19.9	dB/100m
	125	MHz	IEC 61156-1	Max	22.5	dB/100m
	200	MHz	IEC 61156-1	Max	29.2	dB/100m
250	MHz	IEC 61156-1	Max	33	dB/100m	
Unbalance attenuation LCL	1-200	MHz	IEC 61156-1	Min	40-10*log ₁₀ (f/f ₀)	dB/100m
Near end crosstalk NEXT.	4-250	MHz	IEC 61156-1	Min	72.3 - 15*log ₁₀ (f/f ₀)	dB
Far end crosstalk ELFEXT.	4-250	MHz	IEC 61156-1	Min	65.0 - 20*log ₁₀ (f/f ₀)	dB/100m
Bending radius				Min	20	mm
Pulling force				Max	50	N
Net mass					45	Kg/km
Operating temperature				Min	- 40	°C.
				Max	+75	°C.
Fire properties			UL 1685 CM IEC 60332-1		Pass Pass	
Amount of acid halogen gas			IEC 60754-2		Pass	

(For calculating Return loss, Unbalance attenuation, Near and Far end crosstalk use f₀ = 1MHz in formulas.)

6 BASED ON FOLLOWING STANDARDS AND DOCUMENTS.

ECA 105 49-101	Communications Cable
IEC 60096	Radio-frequency cables
IEC 60189	Low-frequency cables and wires with PVC Insulation and PVC Sheath
IEC 60708	Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath
IEC 61156	Multicore and symmetrical pair/quad cables for digital communications
IEC 60332	Tests on electric cables under fire conditions
UL 444	Communications Cable
UL 1685	Test for Flame Propagation