

**1 Title** **Detail specification for high screened coaxial RF-cable with tin soaked braid**

**2 Specifications**

Generic specification: IEC 61196-1, IEC 60096-0-1

Test methods: IEC 61196-1

**3 Types**

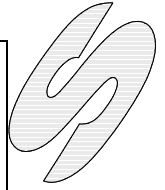
Name	Art.-Nr.	Inner conductor	Colour of FEP sheath
ECR 86-50	453 105 09	Staku vag	---
ECR 86-50-FEP	453 106 49		Himbeerrot RAL 3027
	453 106 99		Beigebraun RAL 8024
ECR 141-50	453 099 09	Cu vag	---
ECR 141-50-FEP	453 098 49		Himbeerrot RAL 3027
ECR 141-75	453 101 09		---
ECR 141-75-FEP	453 102 59		Himmelblau RAL 5015
ECR 141-75	453 103 09	Staku vag	---
ECR 141-75-FEP	453 104 79		Farngrün RAL 6025
ECR 141-35	453 107 09	Cu vag	---
ECR 141-35-FEP	453 108 39		Silbergrau RAL 7001
ECR 141-60	453 109 09		---
ECR 141-60-FEP	453 110 64	Staku vag	Leuchtgelb RAL 1016
ECR 141-100	453 141 09		---
ECR 141-100-FEP	453 112 69		Reinorange RAL 2004
ECR 250-50	453 096 09	Cu vag	---
ECR 250-50-FEP	453 097 49		Himbeerrot RAL 3027

**4 Construction**

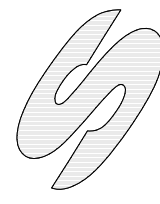
type	Inner conductor		dielectric		screen		sheath	
	Mat.	construction	Ø [mm]	Mat.	Ø [mm]	Mat.	Ø [mm]	
86-50	Staku vag		0,51 ± 0,03	PTFE 5Y11 according VDE 0207 Teil 5	2,1		---	
86-50-FEP			1,60 ± 0,10				FEP	2,5 ± 0,15
141-35	Cu vag		1,40 ± 0,03	Tin soaked copper braid	3,5		---	
141-35-FEP			3,00 ± 0,10				FEP	4,0 ± 0,15
141-50			0,94 ± 0,03		3,5		---	
141-50-FEP			3,00 ± 0,10				FEP	4,0 ± 0,15
141-60			0,76 ± 0,03		3,4		---	
141-60-FEP			2,85 ± 0,10				FEP	4,0 ± 0,15
141-75	Cu vag or Staku vag		0,51 ± 0,03		3,5		---	
141-75-FEP			3,00 ± 0,10				FEP	4,0 ± 0,15
141-100	Staku vag		0,30 ± 0,03		5,9		---	
141-100-FEP			5,30 ± 0,10				FEP	6,4 ± 0,15
250-FEP	Cu vag		1,63 ± 0,03				---	
250-50-FEP			5,30 ± 0,10				FEP	6,4 ± 0,15

**5 Electrical characteristics at 20°C**

	141-35	141-50	141-60	141-75	141-100	86-50	250-50
	141-35-FEP	141-50-FEP	141-60-FEP	141-75-FEP	141-100-FEP	86-50-FEP	250-50-FEP
Characteristic impedance IEC 61196-1 11.8.1 [Ω]	35 ± 2	50 ± 2	60 ± 2	75 ± 3	100 ± 5	50 ± 2	50 ± 2
Capacitance IEC 61196-1 11.3 [pF/m]	137	97	78	63	47	97	97
Screening attenuation IEC 61196-1 12.6 [dB]	<p>≥ 80 dB @ 10 MHz - 2000 MHz</p> <p>multiple bending decreases the screening effectiveness</p>						
Insulation resistance IEC 61196-1 11.2 [GΩ·km]	<p>10</p>						
Withstand voltage of dielectric 50 Hz, 1 min [Kveff] IEC 61196-1 11.5	4,0	4,0	4,0	3,5	2,5	2,0	7,0
Return loss min. IEC 61196-1 11.12 [dB]	<p>25 dB with single peaks up to 20 dB @ 50 MHz - 2000 MHz</p>						



Attenuation [dB/100m] IEC 61196-1:11.13.6	141-35 141-35-FEP		141-50 141-50-FEP		141-60 141-60-FEP		141-75 141-75-FEP		141-100 141-100-FEP		86-50 86-50-FEP		250-50 250-50-FEP	
	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.
50 200 400 800 1000 2000 MHz	9,6	12	8,2	10	8,5	10	8,6	10	10,4	12	15,5	18	4,7	6
	19,6	24	16,8	20	17,3	20	17,6	20	20,8	23	31,5	35	9,7	12
	28,2	34	24,3	28	25,0	28	25,5	30	29,7	33	45,2	50	14,1	17
	41,2	50	35,4	41	36,5	41	37,2	43	42,9	48	65,4	72	20,9	24
	46,7	56	40,2	47	41,4	47	42,2	49	48,4	54	73,8	82	23,8	28
	70,1	85	60,1	70	61,9	70	63,1	72	71	79	110	125	36,3	42
Power rating and working voltage IEC 60096-0-1	P	U	P	U	P	U	P	U	P	U	P	U	P	U
	[W]	[V]	[W]	[V]	[W]	[V]	[W]	[V]	[W]	[V]	[W]	[V]	[W]	[V]
	1520	225	2200	330	2200	360	1930	380	1500	385	775	200	6000	555
	1060	190	1100	230	1100	255	950	265	750	270	385	140	2940	390
	740	155	820	200	820	220	670	220	530	230	270	110	2030	320
	510	130	555	160	555	180	460	185	370	190	185	95	1390	265
450	120	485	150	485	170	410	175	330	180	165	90	1220	250	
300	100	320	120	320	320	135	140	225	150	110	75	820	200	



The values for the power rating  $P_{40^{\circ}\text{C,max}}$  are calculated according IEC 60096-0-1. They are valid for an ambient temperature of  $40^{\circ}\text{C}$  and free heat radiation. The max. continuous working voltage  $U_{40^{\circ}\text{C,max}}$  takes into account the max. permissible voltage gradient of the dielectric and the voltage which is given by  $P_{40^{\circ}\text{C,max}}$ .

For other temperatures than  $20^{\circ}\text{C}$  the attenuation may be approximately calculated by

$$a(T) \approx a(20^{\circ}\text{C}) \cdot (1 + 0,002 \cdot (T - 20^{\circ}\text{C}))$$

For other temperatures than  $40^{\circ}\text{C}$  the power rating may be approximately calculated by

$$P(T) \approx P(40^{\circ}\text{C}) \cdot \left( \frac{T_{\text{Leiter,max}} - T}{T_{\text{Leiter,max}} - 40^{\circ}\text{C}} \right)^{1,14}$$

$a(T)$  attenuation at temperature  $T$  in dB

$a(20^{\circ}\text{C})$  attenuation at  $20^{\circ}\text{C}$  in dB

$P(T)$  power rating at temperature  $T$  in W

$T_{\text{Leiter,max}}$  max. permissible temperature at the inner conductor,  $260^{\circ}\text{C}$  für PTFE

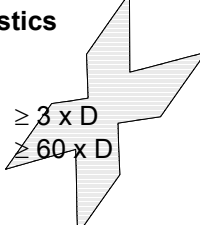
$T$  temperature in  $^{\circ}\text{C}$

## 6 Mechanical and thermal characteristics

Bending radius:

once:

multiple:



$\geq 3 \times D$   
 $\geq 60 \times D$

temperature rating

installation	working (fixed installation) and storage
-20 $^{\circ}\text{C}$ till +70 $^{\circ}\text{C}$	-40 $^{\circ}\text{C}$ till +130 $^{\circ}\text{C}$

Name	weight (nom.) [kg/km]	Pulling force (max.) [N]
ECR 86-50	17	30
ECR 86-50-FEP	21	
ECR 141-35	39	100
ECR 141-35-FEP	46	
ECR 141-50	33	70
ECR 141-50-FEP	40	
ECR 141-60	31	60
ECR 141-60-FEP	38	
ECR 141-75	28	50
ECR 141-75-FEP	35	
ECR 141-100	28	40
ECR 141-100-FEP	35	
ECR 250-50	90	200
ECR 250-50-FEP	100	

