

Habiasense
Cables for measurement applications

Habiasense

Cables for measurement applications

Established in 1941, Habia Cable has developed a wealth of experience in the design and manufacture of high performance wires and cables to meet the requirements of international standards and exacting customer specifications.

With 75 years experience in the design and manufacture of wires and cables for demanding applications, our experience in the industrial market is strong and diverse. Manufacturing facilities in Sweden, Germany, China and Poland together with Research and Development provide a high level of support to Habia Cable's network of Sales Offices throughout Europe and the Far East. The company holds accreditation to ISO 9001 and ISO 14001.

Habia Cable is owned by the Beijer Alma group of companies, an internationally active industrial group, focussed on production of components for customers in the high technology sectors. The company aim is to create competitive companies in selected market segments through active, long term development.

We have a vast experience of supplying custom design wires and cables to the sensor market. For many years we have pioneered a wide range of products to meet the high demands of this exacting industry. Typical sensor applications that Habia Cable has been involved with include:

- Accelerometers, including positioning, speed, vibration and displacement.
- Chemical, including Lambda / O₂
- Level and flow
- Metrology
- Pressure
- Proximity
- Radiation

Our Habiasense solutions can significantly extend the lifetime of the cables you buy from us, giving you value for money and the confidence that you can rely on our cables to do their work. The information within this document should be considered very much as a starting point. The sizes, number of cores colours,

and screening options offered for each of the following concepts is an indication of the sort of cable that Habia Cable can produce and is not a definitive list. Should you require variations in any way, please feel free to contact one of our sales offices to discuss your requirements.

Environmental factors

The sheer variety of applications our cables are subjected to requires a varied range of Habiasense products. External factors such as high and low end temperature exposure, vibration and movement, oil, fuel and water immersion and even radiation all influence the cable's overall performance. To this end we offer four distinct concepts each with its own strengths and benefits.

Low-noise

These cables have extremely low microphonic sensitivity due to integral carbon layers within the construction. Each of the Habiasense constructions can be modified to low-noise performance.

Adaptations

In addition to the 'standard' Habiasense product range, we understand that many of the applications our cables are used in will require extra performance. As such Habia Cable can modify our cables in the following ways:

- Colours: Each of these designs can be modified to use specific core or sheath colours.
- Low noise: Each of these designs can be made with low noise tapes and/or coatings to significantly reduce the electrical interference induced by mechanical movement of the cable.
- Water-blocking: Each of these designs can be made with a bedding layer to prevent the movement of water along the cable.
- UL / CSA approval: Specifically for the HT types, the dimensions, marking and accompanying documentation can be modified to offer a fully UL / CSA approved product.



Habiasense

Low-noise cables

The purpose of low-noise is to minimise the effects of noise and interference in the cable generated due to microphony. Ordinary cables generate unwanted electrical noise when exposed to external influences such as light contact, general movement and vibration. This interference can be sufficient to affect the signal being transmitted through the cable resulting in incorrect values.

Habia Cable's low-noise cables are suitable for use in, or with highly sensitive precision equipment; generally involving the detection or measurement of extremely small currents.

Low-noise

An integral carbon layer is applied between the core/s and the overall screen of the cable. This means that any electrical charge formed by movement or pressure are rapidly returned to and from the screen, effectively trapping these unwanted signals so that no charge can reach the equipment that is connected to the cable.

The noise reduction resulting from this method is in the order of one thousand times better than that of an ordinary cable.

Super-low-noise

A further refined variant is available for use with extremely sensitive instruments and the most extreme of environments. Super-low-noise cables can withstand even greater external influences such as sudden impact without generating any noise signals.

The design incorporates several semi-conducting protective layers throughout which in turn improve the noise reduction value by a further factor of a thousand in comparison to Habia Cable's standard low-noise cables.

Super-low-noise cables have also successfully passed destructive testing where the inner and outer conductors are squeezed until they come into direct contact with one another. During this test, the cable exhibits a noise level in the order of 0.05 pC.

Examples of applications

Habiasense cables may be modified to use low-noise variants for the following applications:

- Instruments for precision acoustic measurements
- Cables between sensors and (for example) accelerometers and photo-electric pickups
- Charge amplifiers
- Medical instruments (e.g. ECG, EET, ultra-sonic equipment)
- Nuclear technology

Should you require a low-noise variant of a Habiasense cable please contact one of our sales offices for a design and quotation.

Cables can usually be modified to be low-noise with little or no impact on the overall dimensions of the cable.

A range of coaxial-based low noise cables is also available. Designated RGL and SML, details of these can be found in Habia Cable's RG Coaxials product literature.



Habiasense HT5

PTFE / PFA

600V

-65°C/+260°C

Construction

Conductor	Nickel Plated Copper (NPC)	Insulation	PTFE	Voltage	600/1000V AC U ₀ /U				
Screen	-	Sheath	PFA	Test voltage	1500V AC				
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense HT5 2x 26 AWG 600V 700043976 2012-W39								

Description	Construction							Electrical amps at 40°C max	Article Number
	no. / size AWG	conductor Ø	insulation Ø	cabled Ø	shield/s Ø	sheath/s Ø	weight g/m		
HT5 2x 26 AWG	2x 26	0.48	1.00	2.0	-	2.5	9.4	8	700043976
HT5 2x 24 AWG	2x 24	0.60	1.13	2.3	-	2.8	11.8	11	700043977
HT5 2x 22 AWG	2x 22	0.76	1.30	2.6	-	3.1	15.6	15	700043978
HT5 2x 20 AWG	2x 20	0.96	1.47	3.0	-	3.5	21.0	21	700043979
HT5 3x 26 AWG	3x 26	0.48	1.00	2.2	-	2.7	12.4	7	700043980
HT5 3x 24 AWG	3x 24	0.60	1.13	2.5	-	3.0	15.9	10	700043981
HT5 3x 22 AWG	3x 22	0.76	1.30	2.8	-	3.3	21.3	14	700043982
HT5 3x 20 AWG	3x 20	0.96	1.47	3.2	-	3.7	29.2	19	700043983
HT5 4x 26 AWG	4x 26	0.48	1.00	2.4	-	2.9	15.6	7	700043984
HT5 4x 24 AWG	4x 24	0.60	1.13	2.7	-	3.2	20.1	9	700043985
HT5 4x 22 AWG	4x 22	0.76	1.30	3.1	-	3.6	27.1	12	700043986
HT5 4x 20 AWG	4x 20	0.96	1.47	3.5	-	4.0	37.4	17	700043987
HT5 7x 26 AWG	7x 26	0.48	1.00	3.0	-	3.5	25.0	5	700043988
HT5 7x 24 AWG	7x 24	0.60	1.13	3.4	-	3.9	32.6	7	700043989
HT5 7x 22 AWG	7x 22	0.76	1.30	3.9	-	4.6	47.8	10	700043990
HT5 7x 20 AWG	7x 20	0.96	1.47	4.4	-	5.1	65.8	14	700043991

Application

Intended to meet extreme environments where temperature and / or fluid resistance is of critical importance. Habiasense HT5 cables can be produced in a wide range of sizes, cores and colours and can also be adapted offer compliance and approval with UL AWM Style 20225 for 600V and 250°C.

- Can be adapted for UL
- Previously traded as Habiasense HT1
- Flame retardant to IEC 60332-3
- Smoke generation to IEC 61034-2
- RoHS compliant

Hsense_HT5_03 2016-02-08

T's & C's available on www.habia.com

Habiasense HT5

PTFE / PFA

600V

-65°C/+260°C

Construction

Conductor	Nickel Plated Copper (NPC)			Insulation	PTFE	Voltage	600/1000V AC U ₀ /U		
Screen	Braid of Nickel Plated Copper (N)			Sheath	PFA	Test voltage	1500V AC		
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense HT5 2x 26 AWG 600V S 700043960 2012-W39								

Description	Construction							Electrical amps at 40°C max	Article Number
	no. / size AWG	conductor Ø	insulation Ø	cabled Ø	shield/s Ø	sheath/s Ø	weight g/m		
HT5 2x 26 AWG (Screen)	2x 26	0.48	1.00	2.0	2.5	3.0	16.4	8	700043960
HT5 2x 24 AWG (Screen)	2x 24	0.60	1.13	2.3	2.7	3.2	18.8	11	700043961
HT5 2x 22 AWG (Screen)	2x 22	0.76	1.30	2.6	3.1	3.6	23.9	15	700043962
HT5 2x 20 AWG (Screen)	2x 20	0.96	1.47	3.0	3.4	3.9	29.5	21	700043963
HT5 3x 26 AWG (Screen)	3x 26	0.48	1.00	2.2	2.6	3.1	20.7	7	700043964
HT5 3x 24 AWG (Screen)	3x 24	0.60	1.13	2.5	2.9	3.4	24.5	10	700043965
HT5 3x 22 AWG (Screen)	3x 22	0.76	1.30	2.8	3.3	3.8	30.9	14	700043966
HT5 3x 20 AWG (Screen)	3x 20	0.96	1.47	3.2	3.7	4.2	40.0	19	700043967
HT5 4x 26 AWG (Screen)	4x 26	0.48	1.00	2.4	2.9	3.4	24.0	7	700043968
HT5 4x 24 AWG (Screen)	4x 24	0.60	1.13	2.7	3.2	3.7	29.6	9	700043969
HT5 4x 22 AWG (Screen)	4x 22	0.76	1.30	3.1	3.6	4.1	38.0	12	700043970
HT5 4x 20 AWG (Screen)	4x 20	0.96	1.47	3.5	4.0	4.7	52.3	17	700043971
HT5 7x 26 AWG (Screen)	7x 26	0.48	1.00	3.0	3.5	4.0	35.3	5	700043972
HT5 7x 24 AWG (Screen)	7x 24	0.60	1.13	3.4	3.9	4.6	47.1	7	700043973
HT5 7x 22 AWG (Screen)	7x 22	0.76	1.30	3.9	4.4	5.1	61.1	10	700043974
HT5 7x 20 AWG (Screen)	7x 20	0.96	1.47	4.4	4.9	5.6	80.5	14	700043975



Application

Intended to meet extreme environments where temperature and / or fluid resistance is of critical importance. Habiasense HT5 cables can be produced in a wide range of sizes, cores and colours and can also be adapted offer compliance and approval with UL AWM Style 20225 for 600V and 250°C.

- Can be adapted for UL
- Previously traded as Habiasense HT1
- Flame retardant to IEC 60332-3
- Smoke generation to IEC 61034-2
- RoHS compliant

Hsense_HT5S_03 2016-02-08

T's & C's available on www.habia.com

Habiasense HT6

FEP / FEP

600V

-65°C/+180°C

Construction

Conductor	Tin Plated Copper (TPC)			Insulation	FEP	Voltage	600/1000V AC U ₀ /U		
Screen	-			Sheath	FEP	Test voltage	1500V AC		
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense HT6 2x 26 AWG 600V 700057771 2012-W39								

Description	Construction							Electrical amps at 40°C max	Article Number
	no. / size AWG	conductor Ø	insulation Ø	cabled Ø	shield/s Ø	sheath/s Ø	weight g/m		
HT6 2x 26 AWG	2x 26	0.48	1.00	2.0	-	2.5	9.4	8	700057771
HT6 2x 24 AWG	2x 24	0.60	1.13	2.3	-	2.8	11.8	11	700057772
HT6 2x 22 AWG	2x 22	0.76	1.30	2.6	-	3.1	15.6	15	700057773
HT6 2x 20 AWG	2x 20	0.96	1.47	3.0	-	3.5	21.0	21	700057774
HT6 3x 26 AWG	3x 26	0.48	1.00	2.2	-	2.7	12.4	7	700057775
HT6 3x 24 AWG	3x 24	0.60	1.13	2.5	-	3.0	15.9	10	700057776
HT6 3x 22 AWG	3x 22	0.76	1.30	2.8	-	3.3	21.3	14	700057777
HT6 3x 20 AWG	3x 20	0.96	1.47	3.2	-	3.7	29.2	19	700057778
HT6 4x 26 AWG	4x 26	0.48	1.00	2.4	-	2.9	15.6	7	700057779
HT6 4x 24 AWG	4x 24	0.60	1.13	2.7	-	3.2	20.1	9	700057780
HT6 4x 22 AWG	4x 22	0.76	1.30	3.1	-	3.6	27.1	12	700057781
HT6 4x 20 AWG	4x 20	0.96	1.47	3.5	-	4.0	37.4	17	700057782
HT6 7x 26 AWG	7x 26	0.48	1.00	3.0	-	3.5	25.0	5	700057783
HT6 7x 24 AWG	7x 24	0.60	1.13	3.4	-	3.9	32.6	7	700057784
HT6 7x 22 AWG	7x 22	0.76	1.30	3.9	-	4.6	47.8	10	700057785
HT6 7x 20 AWG	7x 20	0.96	1.47	4.4	-	5.1	65.8	14	700057786

Application

Rated to 600V and with a temperature range from -200°C (static) and -65°C (dynamic) up to +180°C, our FEP insulated, FEP sheathed Habiasense HT6 offers an excellent balance of temperature and chemical resistance against competitive prices. These cables can be manufactured as multi-cores in sizes up to and including 95sqmm and can also be adapted to offer compliance and approval with UL AWM Style 2748 for 600V and 150°C rated cable.

- Can be adapted for UL
- Flame retardant to IEC 60332-3
- Smoke generation to IEC 61034-2
- RoHS compliant

Hsense_HT6_02 2016-02-08

T's & C's available on www.habia.com

Habiasense HT6

FEP / FEP

600V

-65°C/+180°C

Construction

Conductor	Tin Plated Copper (TPC)			Insulation	FEP	Voltage	600/1000V AC U ₀ /U		
Screen	Braid of Tin Plated Copper (T)			Sheath	FEP	Test voltage	1500V AC		
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense HT6 2x 26 AWG 600V S 700057787 2012-W39								

Description	Construction							Electrical amps at 40°C max	Article Number
	no. / size AWG	conductor Ø	insulation Ø	cabled Ø	shield/s Ø	sheath/s Ø	weight g/m		
HT6 2x 26 AWG (Screen)	2x 26	0.48	1.00	2.0	2.5	3.0	16.4	8	700057787
HT6 2x 24 AWG (Screen)	2x 24	0.60	1.13	2.3	2.7	3.2	18.8	11	700057788
HT6 2x 22 AWG (Screen)	2x 22	0.76	1.30	2.6	3.1	3.6	23.9	15	700057789
HT6 2x 20 AWG (Screen)	2x 20	0.96	1.47	3.0	3.4	3.9	29.5	21	700057790
HT6 3x 26 AWG (Screen)	3x 26	0.48	1.00	2.2	2.6	3.1	20.7	7	700057791
HT6 3x 24 AWG (Screen)	3x 24	0.60	1.13	2.5	2.9	3.4	24.5	10	700057792
HT6 3x 22 AWG (Screen)	3x 22	0.76	1.30	2.8	3.3	3.8	30.9	14	700057793
HT6 3x 20 AWG (Screen)	3x 20	0.96	1.47	3.2	3.7	4.2	40.0	19	700057794
HT6 4x 26 AWG (Screen)	4x 26	0.48	1.00	2.4	2.9	3.4	24.0	7	700057795
HT6 4x 24 AWG (Screen)	4x 24	0.60	1.13	2.7	3.2	3.7	29.6	9	700057796
HT6 4x 22 AWG (Screen)	4x 22	0.76	1.30	3.1	3.6	4.1	38.0	12	700057797
HT6 4x 20 AWG (Screen)	4x 20	0.96	1.47	3.5	4.0	4.7	52.3	17	700057798
HT6 7x 26 AWG (Screen)	7x 26	0.48	1.00	3.0	3.5	4.0	35.3	5	700057799
HT6 7x 24 AWG (Screen)	7x 24	0.60	1.13	3.4	3.9	4.6	47.1	7	700057800
HT6 7x 22 AWG (Screen)	7x 22	0.76	1.30	3.9	4.4	5.1	61.1	10	700057801
HT6 7x 20 AWG (Screen)	7x 20	0.96	1.47	4.4	4.9	5.6	80.5	14	700057802

Application

Rated to 600V and with a temperature range from -200°C (static) and -65°C (dynamic) up to +180°C, our FEP insulated, FEP sheathed Habiasense HT6 offers an excellent balance of temperature and chemical resistance against competitive prices. These cables can be manufactured as multi-cores in sizes up to and including 95sqmm and can also be adapted to offer compliance and approval with UL AWM Style 2748 for 600V and 150°C rated cable.

- Can be adapted for UL
- Flame retardant to IEC 60332-3
- Smoke generation to IEC 61034-2
- RoHS compliant



Hsense_HT6S_02 2016-02-08

T's & C's available on www.habia.com

Habiasense HT7

ETFE / ETFE

600V

-65°C/+155°C

Construction

Conductor	Tin Plated Copper (TPC)			Insulation	ETFE	Voltage	600/1000V AC U ₀ /U		
Screen	-			Sheath	ETFE	Test voltage	1500V AC		
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense HT7 2x 26 AWG 600V 700043881 2012-W39								

Description	Construction							Electrical	Article Number
	no. / size	conductor	insulation	cabled	shield/s	sheath/s	weight	amps at 40°C max	
	AWG	Ø	Ø	Ø	Ø	Ø	g/m		
HT7 2x 26 AWG	2x 26	0.48	0.81	1.6	-	2.1	6.4	6	700043881
HT7 2x 24 AWG	2x 24	0.60	0.91	1.8	-	2.3	8.4	8	700043882
HT7 2x 22 AWG	2x 22	0.76	1.09	2.2	-	2.7	11.9	11	700043883
HT7 2x 20 AWG	2x 20	0.96	1.30	2.6	-	3.1	17.0	15	700043884
HT7 3x 26 AWG	3x 26	0.48	0.81	1.8	-	2.3	8.6	5	700043885
HT7 3x 24 AWG	3x 24	0.60	0.91	2.0	-	2.5	11.4	7	700043886
HT7 3x 22 AWG	3x 22	0.76	1.09	2.4	-	2.9	16.3	10	700043887
HT7 3x 20 AWG	3x 20	0.96	1.30	2.8	-	3.3	23.9	14	700043888
HT7 4x 26 AWG	4x 26	0.48	0.81	2.0	-	2.5	10.9	5	700043889
HT7 4x 24 AWG	4x 24	0.60	0.91	2.2	-	2.7	14.5	7	700043890
HT7 4x 22 AWG	4x 22	0.76	1.09	2.7	-	3.2	21.0	9	700043891
HT7 4x 20 AWG	4x 20	0.96	1.30	3.1	-	3.6	30.9	13	700043892
HT7 7x 26 AWG	7x 26	0.48	0.81	2.5	-	3.0	17.5	4	700043893
HT7 7x 24 AWG	7x 24	0.60	0.91	2.8	-	3.3	23.8	5	700043894
HT7 7x 22 AWG	7x 22	0.76	1.09	3.3	-	3.8	34.9	7	700043895
HT7 7x 20 AWG	7x 20	0.96	1.30	3.9	-	4.6	54.3	10	700043896

Application

Our ETFE insulated, ETFE sheathed solution. Habiasense HT7 is the foremost solution for fluid resistant cables. These cables can be manufactured as multi-cores in sizes up to and including 95sqmm and can also be adapted to offer compliance and approval with UL AWM Style 20222 for 600V and 150°C

- Can be adapted for UL
- Previously traded as Habiasense HT2
- Flame retardant to IEC 60332-3
- Smoke generation to IEC 61034-2
- RoHS compliant

Hsense_HT7_02 2016-02-08

T's & C's available on www.habia.com

Habiasense HT7

ETFE / ETFE

600V

-65°C/+155°C

Construction

Conductor	Tin Plated Copper (TPC)			Insulation	ETFE	Voltage	600/1000V AC U ₀ /U		
Screen	Braid of Tin Plated Copper (T)			Sheath	ETFE	Test voltage	1500V AC		
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense HT7 2x 26 AWG 600V S 700043904 2012-W39								

Description	Construction							Electrical amps at 40°C max	Article Number
	no. / size AWG	conductor Ø	insulation Ø	cabled Ø	shield/s Ø	sheath/s Ø	weight g/m		
HT7 2x 26 AWG (Screen)	2x 26	0.48	0.81	1.6	2.1	2.6	12.1	6	700043904
HT7 2x 24 AWG (Screen)	2x 24	0.60	0.91	1.8	2.3	2.8	14.0	8	700043905
HT7 2x 22 AWG (Screen)	2x 22	0.76	1.09	2.2	2.7	3.2	18.7	11	700043906
HT7 2x 20 AWG (Screen)	2x 20	0.96	1.30	2.6	3.1	3.6	25.2	15	700043907
HT7 3x 26 AWG (Screen)	3x 26	0.48	0.81	1.8	2.2	2.7	15.5	5	700043908
HT7 3x 24 AWG (Screen)	3x 24	0.60	0.91	2.0	2.4	2.9	18.4	7	700043909
HT7 3x 22 AWG (Screen)	3x 22	0.76	1.09	2.4	2.8	3.3	24.5	10	700043910
HT7 3x 20 AWG (Screen)	3x 20	0.96	1.30	2.8	3.3	3.8	33.4	14	700043911
HT7 4x 26 AWG (Screen)	4x 26	0.48	0.81	2.0	2.4	2.9	17.8	5	700043912
HT7 4x 24 AWG (Screen)	4x 24	0.60	0.91	2.2	2.7	3.2	22.6	7	700043913
HT7 4x 22 AWG (Screen)	4x 22	0.76	1.09	2.7	3.1	3.6	30.3	9	700043914
HT7 4x 20 AWG (Screen)	4x 20	0.96	1.30	3.1	3.6	4.1	41.5	13	700043915
HT7 7x 26 AWG (Screen)	7x 26	0.48	0.81	2.5	2.9	3.4	26.9	4	700043916
HT7 7x 24 AWG (Screen)	7x 24	0.60	0.91	2.8	3.2	3.7	33.1	5	700043917
HT7 7x 22 AWG (Screen)	7x 22	0.76	1.09	3.3	3.8	4.3	45.8	7	700043918
HT7 7x 20 AWG (Screen)	7x 20	0.96	1.30	3.9	4.4	5.1	67.3	10	700043919

Application

Our ETFE insulated, ETFE sheathed solution. Habiasense HT7 is the foremost solution for fluid resistant cables. These cables can be manufactured as multi-cores in sizes up to and including 95sqmm and can also be adapted to offer compliance and approval with UL AWM Style 20222 for 600V and 150°C

- Can be adapted for UL
- Previously traded as Habiasense HT2
- Flame retardant to IEC 60332-3
- Smoke generation to IEC 61034-2
- RoHS compliant



Hsense_HT7S_02 2016-02-08

T's & C's available on www.habia.com

Habiasense ZH1

HFI 147 / HFS 125 XL

600V

-30°C/+125°C

Construction

Conductor	Tin Plated Copper (TPC)	Insulation	HFI 147	Voltage	600/1000V AC U ₀ /U				
Screen	-	Sheath	HFS 125 XL	Test voltage	1500V AC				
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense HT5 2x 26 AWG 600V S 700043960 2012-W39								

Description	Construction							Electrical amps at 40°C max	Article Number
	no. / size AWG	conductor Ø	insulation Ø	cabled Ø	shield/s Ø	sheath/s Ø	weight g/m		
ZH1 2x 26 AWG	2x 26	0.48	0.88	1.8	-	3.4	12.6	5	700044033
ZH1 2x 24 AWG	2x 24	0.60	1.00	2.0	-	3.6	15.1	7	700044034
ZH1 2x 22 AWG	2x 22	0.76	1.16	2.3	-	3.9	19.0	9	700044035
ZH1 2x 20 AWG	2x 20	0.96	1.36	2.8	-	4.3	24.9	13	700044036
ZH1 3x 26 AWG	3x 26	0.48	0.88	1.9	-	3.5	15.0	4	700044037
ZH1 3x 24 AWG	3x 24	0.60	1.00	2.2	-	3.8	18.5	6	700044038
ZH1 3x 22 AWG	3x 22	0.76	1.16	2.5	-	4.1	23.9	8	700044039
ZH1 3x 20 AWG	3x 20	0.96	1.36	2.9	-	4.5	32.1	12	700044040
ZH1 4x 26 AWG	4x 26	0.48	0.88	2.1	-	3.7	17.7	4	700044041
ZH1 4x 24 AWG	4x 24	0.60	1.00	2.4	-	4.0	22.2	5	700044042
ZH1 4x 22 AWG	4x 22	0.76	1.16	2.8	-	4.4	29.2	8	700044043
ZH1 4x 20 AWG	4x 20	0.96	1.36	3.3	-	4.9	39.9	11	700044044
ZH1 7x 26 AWG	7x 26	0.48	0.88	2.7	-	4.3	25.5	3	700044045
ZH1 7x 24 AWG	7x 24	0.60	1.00	3.0	-	4.6	32.8	4	700044046
ZH1 7x 22 AWG	7x 22	0.76	1.16	3.5	-	5.1	44.5	6	700044047
ZH1 7x 20 AWG	7x 20	0.96	1.36	4.1	-	5.7	62.4	9	700044048

Application

With an HFI 147 insulation and our HFS 125 XL as outer sheath, Habiasense ZH1 provides a Low Smoke Zero Halogen (LSZH) and flame retardant solution for cables up to +125°C.

- Flame retardant to IEC 60332-1
- Smoke generation to IEC 61034-2
- Halogen free to IEC 60754-2
- RoHS compliant

Hsense_ZH1_03 2016-02-08

T's & C's available on www.habia.com

Habiasense ZH1

HFI 147 / HFS 125 XL

600V

-30°C/+125°C

Construction

Conductor	Tin Plated Copper (TPC)			Insulation	HFI 147		Voltage	600/1000V AC U ₀ /U	
Screen	Braid of Tin Plated Copper (T)			Sheath	HFS 125 XL		Test voltage	1500V AC	
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense HT5 2x 26 AWG 600V S 700043960 2012-W39								

Description	Construction							Electrical amps at 40°C max	Article Number
	no. / size AWG	conductor Ø	insulation Ø	cabled Ø	shield/s Ø	sheath/s Ø	weight g/m		
ZH1 2x 26 AWG (Screen)	2x 26	0.48	0.88	1.8	2.2	3.8	19.1	5	700044049
ZH1 2x 24 AWG (Screen)	2x 24	0.60	1.00	2.0	2.5	4.1	23.0	7	700044050
ZH1 2x 22 AWG (Screen)	2x 22	0.76	1.16	2.3	2.8	4.4	26.8	9	700044051
ZH1 2x 20 AWG (Screen)	2x 20	0.96	1.36	2.8	3.2	4.8	34.1	13	700044052
ZH1 3x 26 AWG (Screen)	3x 26	0.48	0.88	1.9	2.4	4.0	22.8	4	700044053
ZH1 3x 24 AWG (Screen)	3x 24	0.60	1.00	2.2	2.6	4.2	27.5	6	700044054
ZH1 3x 22 AWG (Screen)	3x 22	0.76	1.16	2.5	3.0	4.6	34.2	8	700044055
ZH1 3x 20 AWG (Screen)	3x 20	0.96	1.36	2.9	3.4	5.0	42.9	12	700044056
ZH1 4x 26 AWG (Screen)	4x 26	0.48	0.88	2.1	2.6	4.2	26.7	4	700044057
ZH1 4x 24 AWG (Screen)	4x 24	0.60	1.00	2.4	2.9	4.5	31.4	5	700044058
ZH1 4x 22 AWG (Screen)	4x 22	0.76	1.16	2.8	3.3	4.9	39.7	8	700044059
ZH1 4x 20 AWG (Screen)	4x 20	0.96	1.36	3.3	3.8	5.4	51.9	11	700044060
ZH1 7x 26 AWG (Screen)	7x 26	0.48	0.88	2.7	3.1	4.7	35.7	3	700044061
ZH1 7x 24 AWG (Screen)	7x 24	0.60	1.00	3.0	3.5	5.1	44.5	4	700044062
ZH1 7x 22 AWG (Screen)	7x 22	0.76	1.16	3.5	4.0	5.6	57.0	6	700044063
ZH1 7x 20 AWG (Screen)	7x 20	0.96	1.36	4.1	4.6	6.2	77.1	9	700044064

Application

With an HFI 147 insulation and our HFS 125 XL as outer sheath, Habiasense ZH1 provides a Low Smoke Zero Halogen (LSZH) and flame retardant solution for cables up to +125°C.

- Flame retardant to IEC 60332-1
- Smoke generation to IEC 61034-2
- Halogen free to IEC 60754-2
- RoHS compliant



Hsense_ZH1S_03 2016-02-08

T's & C's available on www.habia.com

Habiasense ZH2

TPS 130 / HFS 100

300V

-40°C/+90°C

Construction

Conductor	Tin Plated Copper (TPC)			Insulation	TPS 130	Voltage	300/500V AC U ₀ /U		
Screen	-			Sheath	HFS 100	Test voltage	1500V AC		
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense ZH2 2x 26 AWG 300V 700044071 2012-W39								

Description	Construction							Electrical amps at 40°C max	Article Number
	no. / size AWG	conductor Ø	insulation Ø	cabled Ø	shield/s Ø	sheath/s Ø	weight g/m		
ZH2 2x 26 AWG	2x 26	0.48	0.88	1.8	-	2.4	6.3	3	700044071
ZH2 2x 24 AWG	2x 24	0.60	1.00	2.0	-	3.2	11.7	4	700044072
ZH2 2x 22 AWG	2x 22	0.76	1.16	2.3	-	3.5	15.2	6	700044073
ZH2 2x 20 AWG	2x 20	0.96	1.36	2.8	-	3.9	20.6	9	700044074
ZH2 3x 26 AWG	3x 26	0.48	0.88	1.9	-	3.1	11.6	3	700044075
ZH2 3x 24 AWG	3x 24	0.60	1.00	2.2	-	3.4	14.8	4	700044076
ZH2 3x 22 AWG	3x 22	0.76	1.16	2.5	-	3.7	19.9	6	700044077
ZH2 3x 20 AWG	3x 20	0.96	1.36	2.9	-	4.1	27.6	8	700044078
ZH2 4x 26 AWG	4x 26	0.48	0.88	2.1	-	3.3	14.0	3	700044079
ZH2 4x 24 AWG	4x 24	0.60	1.00	2.4	-	3.6	18.2	4	700044080
ZH2 4x 22 AWG	4x 22	0.76	1.16	2.8	-	4.0	24.8	5	700044081
ZH2 4x 20 AWG	4x 20	0.96	1.36	3.3	-	4.5	35.0	7	700044082
ZH2 7x 26 AWG	7x 26	0.48	0.88	2.7	-	3.9	21.2	2	700044083
ZH2 7x 24 AWG	7x 24	0.60	1.00	3.0	-	4.2	28.1	3	700044084
ZH2 7x 22 AWG	7x 22	0.76	1.16	3.5	-	4.7	39.2	4	700044085
ZH2 7x 20 AWG	7x 20	0.96	1.36	4.1	-	5.3	56.4	6	700044086

Application

Our entry level Habiasense product, ZH2 uses our TPS 130 as insulation with an HFS 100 outer sheath. These cables are fully zero halogen and ideal for external use and suitable for dynamic applications, operating in nominal ambient air temperatures up to +90°C. Habiasense ZH2 can be made void-free for water-blocking and low-static for ATEX applications.

- Halogen free to IEC 60754-2
- RoHS compliant

Hsense_ZH2_03 2016-02-08

T's & C's available on www.habia.com

Habiasense ZH2

TPS 130 / HFS 100

300V

-40°C/+90°C

Construction

Conductor	Tin Plated Copper (TPC)			Insulation	TPS 130	Voltage	300/500V AC U ₀ /U		
Screen	Braid of Tin Plated Copper (T)			Sheath	HFS 100	Test voltage	1500V AC		
Colour code	1 White	2 Red	3 Black	4 Blue	5 Yellow	6 Green	7 Orange	Sheath	Black
Marking	TYPE CORES x SIZE VOLTAGE SCREEN ORDER REFERENCE YEAR-WEEK								
	e.g.: Habiasense ZH2 2x 26 AWG 300V S 700044087 2012-W39								

Description	Construction							Electrical amps at 40°C max	Article Number
	no. / size AWG	conductor Ø	insulation Ø	cabled Ø	shield/s Ø	sheath/s Ø	weight g/m		
ZH2 2x 26 AWG (Screen)	2x 26	0.48	0.88	1.8	2.2	3.4	15.4	3	700044087
ZH2 2x 24 AWG (Screen)	2x 24	0.60	1.00	2.0	2.5	3.7	19.0	4	700044088
ZH2 2x 22 AWG (Screen)	2x 22	0.76	1.16	2.3	2.8	4.0	22.5	6	700044089
ZH2 2x 20 AWG (Screen)	2x 20	0.96	1.36	2.8	3.2	4.4	29.3	9	700044090
ZH2 3x 26 AWG (Screen)	3x 26	0.48	0.88	1.9	2.4	3.6	18.9	3	700044091
ZH2 3x 24 AWG (Screen)	3x 24	0.60	1.00	2.2	2.6	3.8	23.4	4	700044092
ZH2 3x 22 AWG (Screen)	3x 22	0.76	1.16	2.5	3.0	4.2	29.6	6	700044093
ZH2 3x 20 AWG (Screen)	3x 20	0.96	1.36	2.9	3.4	4.6	37.8	8	700044094
ZH2 4x 26 AWG (Screen)	4x 26	0.48	0.88	2.1	2.6	3.8	22.6	3	700044095
ZH2 4x 24 AWG (Screen)	4x 24	0.60	1.00	2.4	2.9	4.1	26.9	4	700044096
ZH2 4x 22 AWG (Screen)	4x 22	0.76	1.16	2.8	3.3	4.5	34.8	5	700044097
ZH2 4x 20 AWG (Screen)	4x 20	0.96	1.36	3.3	3.8	5.0	46.4	7	700044098
ZH2 7x 26 AWG (Screen)	7x 26	0.48	0.88	2.7	3.1	4.3	31.0	2	700044099
ZH2 7x 24 AWG (Screen)	7x 24	0.60	1.00	3.0	3.5	4.7	39.3	3	700044100
ZH2 7x 22 AWG (Screen)	7x 22	0.76	1.16	3.5	4.0	5.2	51.2	4	700044101
ZH2 7x 20 AWG (Screen)	7x 20	0.96	1.36	4.1	4.6	5.8	70.6	6	700044102

Application

Our entry level Habiasense product, ZH2 uses our TPS 130 as insulation with an HFS 100 outer sheath. These cables are fully zero halogen and ideal for external use and suitable for dynamic applications, operating in nominal ambient air temperatures up to +90°C. Habiasense ZH2 can be made void-free for water-blocking and low-static for ATEX applications.

- Halogen free to IEC 60754-2
- RoHS compliant



Hsense_ZH2S_03 2016-02-08

T's & C's available on www.habia.com

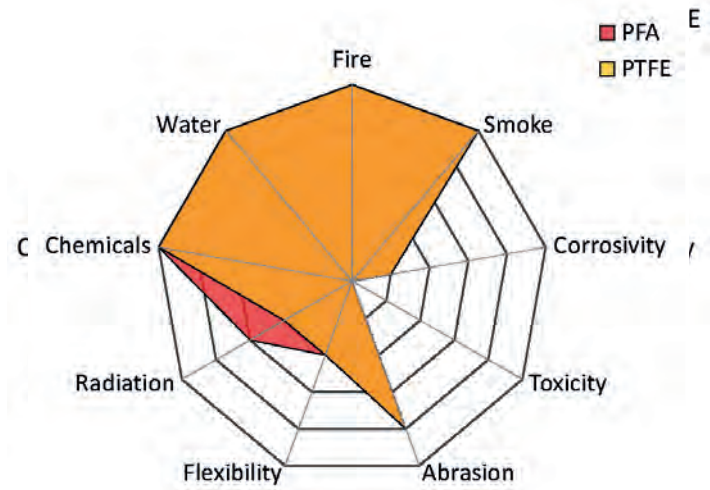
Materials

Insulation & sheath properties

PTFE / PFA

Insulation / Sheath materials used in:

- HT 5



FEP

Insulation and sheathing material used in:

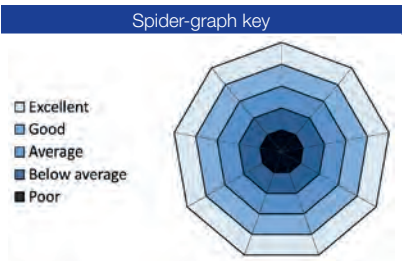
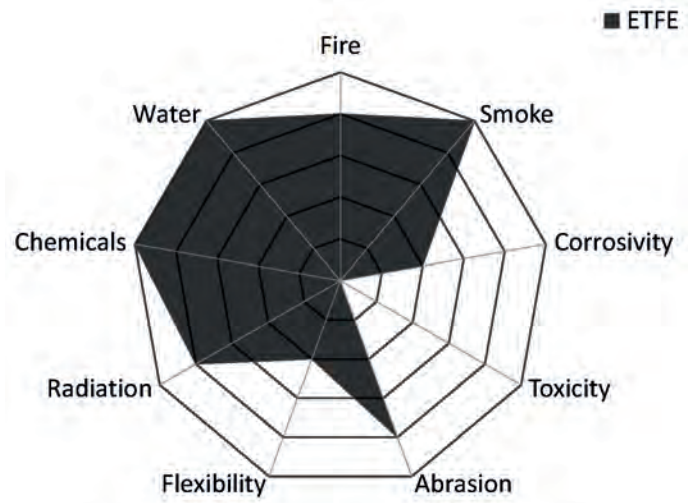
- HT 6



ETFE

Insulation and sheathing material used in:

- HT 7



Materials

Insulation & sheath properties

HFI 147 / HFS 125 XL

Insulation / Sheath materials used in:

- ZH 1



TPS 130 / HFS 100

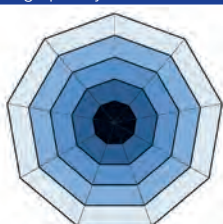
Insulation / Sheath materials used in:

- ZH 2



Spider-graph key

- Excellent
- Good
- Average
- Below average
- Poor



Habia Cable

Habia Cable is one of Europe's leading wire and cable manufacturers.

We develop, manufacture and market custom design cables and harness systems for demanding applications in a number of diverse industries.

The company has a global presence and worldwide sales of custom design and standard products in more than 50 countries.

We aim to provide a high level of customer service and technical competence with competitive lead times and low minimum order quantities.



HEAD OFFICE
Habia Cable AB
Kanalvägen 18, Box 5076
SE-194 05 Upplands Väsby
Sweden
Tel: +46 (0) 8 630 74 40
Fax: +46 (0) 8 630 74 81
Email: info.se@habia.com

CHINA
Habia Cable China Ltd
No 16 Changjiang Middle Road
New District of Changzhou
CN-213022 Jiangsu
China
Tel: +86 (0) 5198 511 8010
Fax: +86 (0) 5198 510 2998
Email: info.cn@habia.com

DENMARK
Habia Cable AB
Brädgårdsvägen 28
SE-236 32 Höllviken
Sweden
Tel: +46 (0) 72 214 4492
Email: info.dk@habia.com

FINLAND
Habia Cable AB
Jukolansuora C5
FI-04340 Tuusula
Finland
Tel: +358 (0) 20 155 25 30
Fax: +358 (0) 20 155 25 39
Email: info.fi@habia.com

FRANCE
Habia Cable SA
100 Avenue Denis Papin
FR-45800 Saint Jean de Braye
France
Tel: +33 (0) 2 38 22 15 70
Fax: +33 (0) 2 38 22 15 79
Email: info.fr@habia.com

GERMANY
Habia Cable GmbH
Pfaffengweg 22
DE-89231 Neu-Ulm
Germany
Tel: +49 (0) 731 70 47 95 0
Fax: +49 (0) 731 70 47 95 99
Email: info.de@habia.com

HONG KONG
Habia Cable Asia Ltd
Flat 1109, 11/F Fast Industrial
Building
658 Castle Peak Road
Lai Chi Kok
Kowloon
Hong Kong
Tel: +852 2591 1375
Fax: +852 2838 0229
Email: info.hk@habia.com

INDIA
Habia Cable
#1/1, Sai Towers
First Floor, R.V Road
Behind Kempegowda Statue
IN-560 004 Bangalore
India
Tel: +91 99 728 82254
Email: info.in@habia.com

KOREA
Habia Cable Asia Ltd
Korea Branch Office
Rm 309, Suseo-Tower
725 Suseo-dong
Gangnam-gu, Seoul
135-757
Korea
Tel: +82 (0) 2 504 6674
Fax: +82 (0) 2 504 6675
Email: info.kr@habia.com

NETHERLANDS
Habia Cable BV
Voorerf 33
4824 GM Breda
The Netherlands
Tel: +31 (0) 76 541 6400
Fax: +31 (0) 76 541 8289
Email: info.nl@habia.com

NORWAY
Habia Cable AB
Riddervoldsgate 4
0256 Oslo
Norway
Tel: +47 99 09 09 30
Email: info.no@habia.com

UNITED KINGDOM
Habia Cable Limited
Short Way
Thornbury
Bristol, BS35 3UT
United Kingdom
Tel: +44 (0) 1454 412522
Fax: +44 (0) 1454 416121
Email: info.uk@habia.com

OTHER MARKETS
Please contact Habia Cable
Head Office for distributors and
agents worldwide.

© Habia Cable 2016
All rights reserved.