



Habiaflame²
Fire resistant wires and cables

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Introduction

For over 25 years, Habia Cable has been manufacturing our Habiaflame range of fire resistant wires and cables which are used in a number of applications where extremely high temperatures will be found (the product is capable of operating up to a peak temperature of +1565°C) and in safety circuits for critical equipment.

In order to meet the requirements of the latest international fire and flame performance approvals, our Habiaflame range has now been updated and improved.

Habiaflame² is now available in both the standard RV range (an improved version of the product sold for many years) and RVH with a halogen free topcoat. Not only tested and approved to the latest standards, the new version has bolder colours, a better surface finish and can be manufactured in sizes from 0,5mm² up to 70mm².

Habiaflame²

Designed to meet the stringent demands of IEC 60331, where cables must be able to operate continuously under fire conditions; both versions of Habiaflame² hold the following approvals:

- Fire resistant to IEC 60331-31 (flame with shock at 830°C for 120 minutes)
- Fire resistant to IEC 60331-21 (flame at 750°C for 90 minutes)
- Fire resistant to BS 6387: 1994 W clause 11.2 (flame at 650°C with water spray)
- Flame retardant to IEC 60332-3-24 Cat C
- EN 50200 - PH120

Habia Cable is first and foremost a custom-design cable manufacturer. The designs presented here are an indication of what can be produced, but this should not be considered an exhaustive list.

Should you not find the product you are looking for, or if you require further information, please contact one of our sales offices.

IEC 60331-21



Single core

Temp.	Nom. 120 min Peak	-65°C to +260°C -65°C to +830°C -65°C to +1565°C
Voltage	600/1000V AC U ₀ /U	
Test voltage	3000V AC	
Flame retardant		
Low smoke generation		
<ul style="list-style-type: none"> IEC 60331-21 IEC 60331-31 		

Construction

Conductor	Nickel Plated Copper (NPC)	Insulation	Habiaflame ²
Shield	-	Sheath	-

Identification

Cores	See below for options
Sheath	-
Marking	-

Application

Habiaflame² power cores are designed to meet the stringent demands of IEC 60331-31, where the cable must be able to operate continuously under fire conditions. Habiaflame² is ideal for use in emergency systems and for heavy industry.

Description	Size		Conductor			Finished Wire			Electrical amps at 40°C	Order reference
	AWG	CSA mm ²	stranding	resistance Ω/km	wire Ø	core Ø	tolerance	weight g/m		
RV 0,5	-	0,50	16 x 0,20	40,10	0,88	2,60	± 0,20	13,6	19	9080050cc
RV 0,75	-	0,75	24 x 0,20	26,70	1,05	2,80	± 0,20	14,2	25	9080075cc
RV 1,0	-	1,00	32 x 0,20	20,00	1,20	2,90	± 0,20	18,4	30	9080100cc
RV 1,5	-	1,50	30 x 0,25	13,70	1,50	3,20	± 0,20	24,8	40	9080150cc
RV 2,5	-	2,50	50 x 0,25	8,21	1,95	3,70	± 0,20	35,5	57	9080250cc
RV 4	-	4,00	56 x 0,30	5,09	2,48	4,20	± 0,20	52,5	80	9080400cc
RV 6	-	6,00	84 x 0,30	3,39	2,92	4,60	± 0,20	69,3	105	9080600cc
RV 10	-	10,00	80 x 0,40	1,95	3,93	5,60	± 0,20	111,0	156	9081000cc
RV 16	-	16,00	126 x 0,40	1,24	5,70	7,90	± 0,20	185,7	227	9081600cc

Available colours (replace 'cc' in the order reference)

00 Black	11 Brown	22 Red	33 Orange	44 Yellow	55 Green	66 Blue	77 Violet	88 Grey	99 White	29 Pink	-	45 Yel/Grn
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Ref: HF2_RV_12 Created: CJV Approved: AE Date: 2013-09-12

Data indicates nominal values unless stated otherwise, is only valid for reference purposes at the time of publication and is subject to change without prior notice.

Single core

Temp.	Nom. 120 min Peak	-65°C to +260°C -65°C to +830°C -65°C to +1565°C
Voltage		600/1000V AC U ₀ /U
Test voltage		3000V AC
Flame retardant		
Halogen free		
Low smoke generation		
		<ul style="list-style-type: none"> IEC 60331-21 IEC 60331-31

Construction

Conductor	Nickel Plated Copper (NPC)	Insulation	Habiaflame ²
Shield(s)	-	Sheath	-

Identification

Cores	See below for options
Sheath	-
Marking	-

Application

Habiaflame² power cores are designed to meet the stringent demands of IEC 60331-31. Habiaflame² RVH cores provide the additional benefits of Low Smoke Zero Halogen (LSZH) properties as well as continuous operation under fire conditions. Habiaflame² is ideal for use in emergency systems and for heavy industry.

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Description	Size		Conductor			Finished Wire			Electrical	Order reference
	AWG	CSA mm ²	stranding	resistance Ω/km	wire Ø	core Ø	tolerance	weight g/m	amps at 40°C	
RVH 0,5	-	0,50	16 x 0,20	40,10	0,88	2,60	± 0,20	13,6	19	9070050cc
RVH 0,75	-	0,75	24 x 0,20	26,70	1,05	2,80	± 0,20	14,2	25	9070075cc
RVH 1,0	-	1,00	32 x 0,20	20,00	1,20	2,90	± 0,20	18,4	30	9070100cc
RVH 1,5	-	1,50	30 x 0,25	13,70	1,50	3,20	± 0,20	24,8	40	9070150cc
RVH 2,5	-	2,50	50 x 0,25	8,21	1,95	3,70	± 0,20	35,5	57	9070250cc
RVH 4	-	4,00	56 x 0,30	5,09	2,48	4,20	± 0,20	52,5	80	9070400cc
RVH 6	-	6,00	84 x 0,30	3,39	2,92	4,60	± 0,20	69,3	105	9070600cc
RVH 10	-	10,00	80 x 0,40	1,95	3,93	5,60	± 0,20	111,0	156	9071000cc
RVH 16	-	16,00	126 x 0,40	1,24	5,70	7,90	± 0,20	185,7	227	9071600cc

Available colours (replace 'cc' in the order reference)

00 Black	11 Brown	22 Red	33 Orange	44 Yellow	55 Green	66 Blue	77 Violet	88 Grey	99 White	29 Pink	-	45 Yel/Grn
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Ref: HF2_RVH_13 Created: CJV Approved: AE Date: 2013-09-12

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Custom design cables

Temp.	Nom. 120 min Peak	-65°C to +260°C -65°C to +830°C -65°C to +1565°C
Voltage		600/1000V AC U ₀ /U
Test voltage		3000V AC
Flame retardant		
Halogen free (optional)		
Low smoke generation		
	• IEC 60331-21 • IEC 60331-31	

Construction

Conductor	Nickel Plated Copper (NPC)	Insulation	Habiaflame ²
Shield	Fire barrier Optional Braid of Nickel Plated Copper (N)	Sheath	Habiaflame ²

Identification

As standard, Habia Cable follows the HD 308 S2 colour code for power cables, however both the colour coding and jacket marking can be specified according to the customer's request.

Application

Habiaflame wires and cables are successfully used in many applications; examples of which are foundries and steel mills, glass production, the chemical industry and in the military field. Habiaflame is also used in areas where - in the event of fire - all types of vital equipment needs to remain operational.

Custom Design Cables

Due to the extreme high temperature performance of Habiaflame², experience has shown that it often does not need to be enclosed in any other protective system, but can be installed completely exposed. This makes installation quicker and also means that the cable can be easily inspected, so that the damage that follows exposure to fire conditions can be easily found.

Ordinary cable that is subject to constant high temperature generally fails as the plasticiser in the insulation dries out quickly leading to operational problems or production shutdowns, which often means replacement of the cable. This does not happen with Habiaflame²; with a lifetime which is many times longer than that of other cables, it enables considerable cost savings compared to using conventional cables.

Habiaflame² cables are flexible with a minimum bend radius of ten times the outer diameter and are also easy to terminate, which simplifies the installation.

Both versions of Habiaflame² are mechanically tough, chemical and weather resistant making them particularly suitable for use in hazardous area conditions when reliability is required.

As a custom design cable manufacturer, Habia Cable's expertise is in manufacturing the ideal cable for a given application. Using almost any combination of core sizes, screens and sheaths, Habia can reduce or even remove the need for multiple cable runs, combining everything into a single, user-friendly composite cable.

All custom design cable enquiries will receive a customer specific, detailed engineering drawing which can then be reviewed, modified if required and finally approved by the customer.

Enquiries should be directed to our local sales offices and contact details can be found on final page of this product guide.



