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⚠ NOTICES

1. When designing a component using this product and applying the designed components in any system, use this product only in the guaranteed range specified by Hitachi Metals. Do not use the product beyond guaranteed values specified by Hitachi Metals. Hitachi Metals will not be responsible for any damage or accident when this product is used beyond guaranteed values specified by Hitachi Metals. Even when the product is used within the specification given by Hitachi Metals, take appropriate measures for system, such as failsafe, to avoid any accident resulting in any bodily injury and/ or property damage. It is the responsibility of a user to take such measures.
2. These products are designed to be used for general electronic devices (e.g. office machinery, communication devices, measurement devices, household appliances, etc.) Performance and safety of this product for applications in the special fields which require particularly high reliability and quality, and whose application is potentially life threatening or could lead to physical harm in the event of malfunction is not confirmed. Such field may include: space science, aviation, nuclear energy, combustion control, transportation, safety devices and medical equipment. Be sure to examine the performance and safety when the product is used for these applications, take appropriate measures for system, such as failsafe, to avoid any accident resulting in any bodily injury and / or property damage. It is the responsibility of a user to make such measures.
3. Take appropriate measures, such as using an overvoltage protective device to prevent high voltage surge from being applied to the product if direct lighting surge, inductive lighting surge, switching surge, etc. is likely applied to this product. This product may be deteriorate in function when high-voltage surge is applied. It is the responsibility of the user to take such measures.
4. The user is responsible for checking the fitness of the production in radiation environment.
5. In no event shall Hitachi Metals be responsible for any claim, loss or damages caused by defects in design by the user.
6. The products and their specifications are subject to change without notice Please check the latest catalogue, technical documents or specifications before your final design, procurement or use of the products.
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8. Please contact Hitachi Metals India Pvt. Ltd. for any inquiry.

March 2018

HITACHI

Power Electronics Components (Catalogue)

Metglas® AMCC Series Cut Cores [U-U, Multi-cut, 3-Leg & Blocks]

AMCC series Cut Cores & Blocks are suitable for Inductor, Choke Coil and Reactor application especially used in High-Frequency filter range. It contributes to downsize, improve efficiency and ensure high frequency migration of topologies

Metglas® is a registered mark of Metglas, Inc.

Materials Mag!c
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1. Features

- ***Low Core Loss***
  AMCC series cut cores have much lower core loss than those made of other magnetic metallic materials like Silicon Steel (CRGO) of any Grade and Thickness, Iron Powder Cores
- ***High Operation Flux Density***
  AMCC series cut cores allow designing applications with high operation flux density due to high saturation flux density (B_s = 1.56T)
- ***Stable Operation at wide temperature range***
- ***Flat DC Bias Characteristics***
- ***Customized Shape & Sizes from 100 grams to 100 kilo-grams***

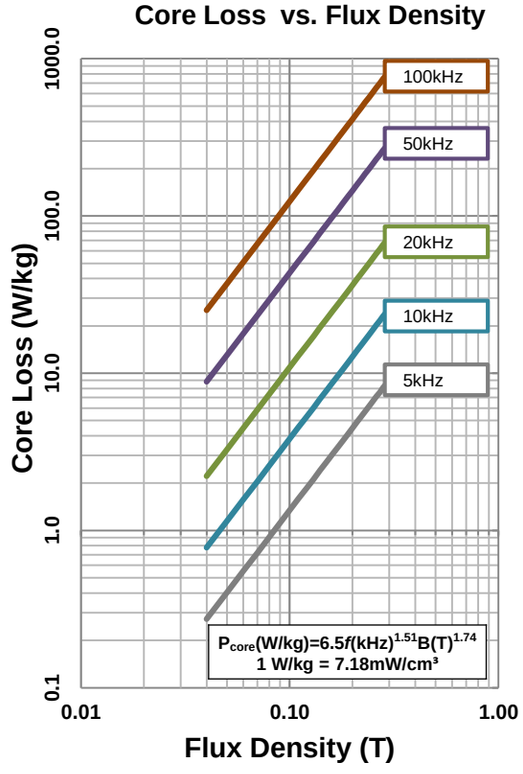
Physical Properties
***Metglas*® Alloy 2605SA1 based AMCC Series Cut Cores**

Ribbon Thickness **(µm): 23**
Density **(g/cm³): 7.18**
Crystallization Temperature **(°C): 508**
Curie Temperature **(°C): 395**
Continuous Service Temperature **(°C): 150**

Magnetic Properties
***Metglas*® Alloy 2605SA1 based AMCC Series Cut Cores**

Saturation Flux Density **(Tesla): 1.56**
Permeability **(depending on set air gap size): VARIABLE**
Electrical Resistivity **(µΩ.cm): 130**

Core Loss vs. Flux Density



2. Applications

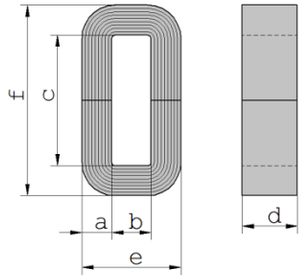
- Inductors (Choke Coils) / Reactors for Power Converters of Photo-Voltaic (Solar), UPS (Uninterruptible Power Supply), Wind Power Generators, Industrial Power Supplies
- Inductors for PFC / Filter / Buck-Boost Converter of xEV (Electric Vehicles, “x” can be battery / mild or full or plugin hybrid), conventional automobile electrification filters
- High frequency Transformers for X-ray CT, Induction Heating Apparatus, Welding Machine, Communication equipment, Amplifiers etc.

3. Standard specifications

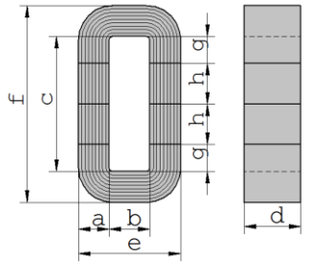
Table 1: Standard Specifications for AMCC series cut cores

Part Name	A (mm) Nom.	B (mm) Min.	C (mm) Min.	D (mm) Nom.	E (mm) Nom.	F (mm) Nom.	Ac (cm^2) Nom.	Wa (cm^2) Nom.	Mass (g) Nom.	Cut Detail
AMCC-4	9	10	33	15	28	51	1.1	3.3	99	Single Cut Cores
AMCC-6.3	10	11	33	20	31	53	1.6	3.6	154	
AMCC-8	11	13	30	20	35	52	1.8	3.9	172	
AMCC-10	11	13	40	20	35	62	1.8	5.2	198	
AMCC-16A	11	13	40	25	35	62	2.3	5.2	248	
AMCC-16B	11	13	50	25	35	72	2.3	6.5	281	
AMCC-20	11	13	50	30	35	72	2.7	6.5	337	
AMCC-25	13	15	56	25	41	82	2.7	8.4	379	
AMCC-32	13	15	56	30	41	82	3.2	8.4	454	
AMCC-40	13	15	56	35	41	82	3.7	8.4	530	
AMCC-50	16	20	70	25	52	102	3.3	14.0	586	
AMCC-63	16	20	70	30	52	102	3.9	14.0	703	
AMCC-80	16	20	70	40	52	102	5.2	14.0	938	
AMCC-100	16	20	70	45	52	102	5.9	14.0	1,055	
AMCC-125	19	25	83	35	63	121	5.5	20.8	1,166	Single-cut / Multi-cut Cores
AMCC-160	19	25	83	40	63	121	6.2	20.8	1,333	
AMCC-200	19	25	83	50	63	121	7.8	20.8	1,666	
AMCC-250	19	25	90	60	63	128	9.3	22.5	2,095	
AMCC-320	22	35	85	50	79	129	9.0	29.8	2,167	
AMCC-400	22	35	85	65	79	129	11.7	29.8	2,817	
AMCC-500	25	40	85	55	90	135	11.3	34.0	2,890	
AMCC-630	25	40	85	70	90	135	14.4	34.0	3,678	
AMCC-800A	25	40	85	85	90	135	17.4	34.0	4,466	
AMCC-800B	30	40	95	85	100	155	20.9	38.0	5,972	
AMCC-1000	33	40	105	85	106	171	23.0	42.0	7,109	
AMCC-1300	44	40	105	85	128	193	30.7	42.0	10,466	
AMCC-1700	33	70	105	85	136	171	23.0	73.5	8,119	
AMCC-2300	45	45	145	95	135	235	33.0	65.3	14,377	
AMCC-2400	45	45	148	95	135	238	35.1	66.6	14,531	
AMCC-3000	45	45	180	95	135	270	35.1	81.0	16,174	

Ac: Net cross sectional area
Wa: Window area for windings



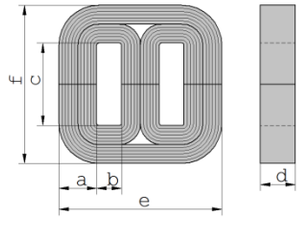
Single-Cut Core



Multi-Cut Core

Table 2: Customized range of AMCC series cut core / 3-Leg Core

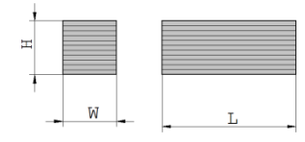
Part Name	A (mm) max.	B (mm) max.	C (mm) max.	D (mm) max.	E (mm) max.	F (mm) max.	Mass (g) Nom. (Limit Range)	Cut Detail
AMCC series	100	100	300	142	300	500	1,02,331	Single / Multicut
3-Leg core	70	100	370	142	410	510	1,15,208	



3-Leg Core

Table 3: Customized specifications for Blocks

Specs.	L, Length (mm)	W, Width (mm)	H, Height (mm)	Mass (g) Nom. (Limit Range)	-
Min.	30	15	10	30	
Max.	600	100	150	58,662	



Block

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