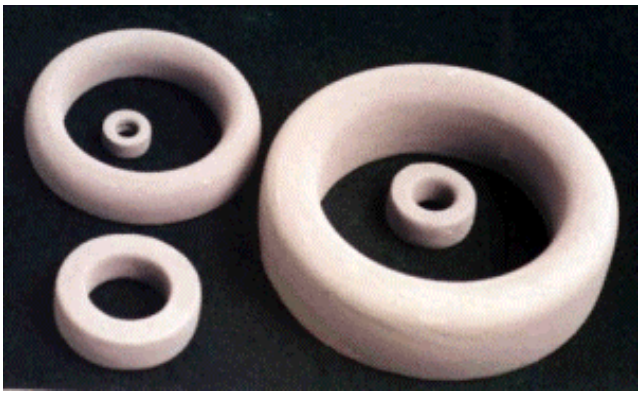
"FERRITE DOMEN" IN DOMAIN OF METAL POWDER MATERIALS



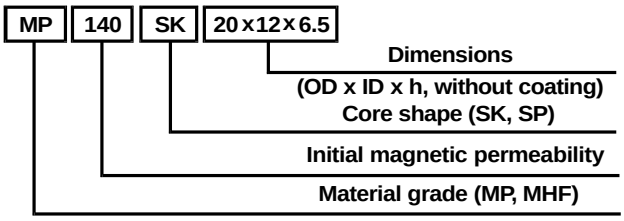
FERRITE DOMEN Co. is the long-time leading company that performs R&D and manufactures all classes and types of soft, hard and microwave ferrites. Besides, it also deals with the cores produced on the base of metal powders of

- **Molybdenum Permalloy (MPP cores)**
- **Permalloy 50% Ni (High Flux cores)**

Generally, initial powders are the grains of corresponding metal with their individual insulation, so the toroids of those materials have the structure of distributed air gap what in the case of ferrites is provided by slitting the toroids or grinding the central part (leg) of E-type and pot-type cores.
The metal powder cores have some important features used effectively in communication and electrotechnic circuits:

- **High specific resistance**
- **Low hysteresis loss**
- **High saturataion flux density**
- **Excellent stability of induction in AC and DC**
- **High long-term stability of parameters**
- **Polyamide 11 (Rilsan) 100% coating**

PART NUMBER EXAMPLE



MPP CORES

Molybdenum Permalloy Powder cores (MPP) find the wide application in electronic and electrical circuits where high Q-value of inductances and long-term stability of parameters are the critical factors. They effectively show their attractive features as energy storage chokes in SMPS, electronic ballasts in energy saving light lamps, as inductive elements of various filters, etc.

Material	m_i	f_c MHz	$tgd_m \cdot 10^{-3}$			$Tkm \cdot 10^{-6}$ 1/°C	
			f kHz	H_m A/m			
				24	72	(-60 + 85) °C	(-60 +155) °C
MP 14	12...14	< 5.0	1000 3000		20.0 50.0		<120
MP 20	20	< 1.0	1000		30.0	<120	
MP 60	60	< 0.3	30 100	 12.0	5.9 12.9		<100
MP 100	100	< 0.3	30 100	 22.8	10.3 24.3	<100	<120
MP 140	140	< 0.1	30 100	 48.5	20.0 51.5	<120	<150
MP 160	160	< 0.1	30 100	 105.0	37.5 108.0	<150	<180
MP 250	250	< 0.03	30	45.0	50.0	<200	<250
MP 300	300	< 0.01	5	50.0			<300

HIGH FLUX CORES

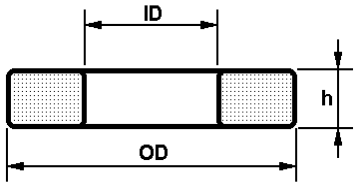
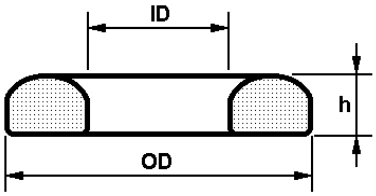
High Flux cores are based on permalloy material with 50% Ni compared with 81% Ni for molypermalloy. They feature high saturation flux density of 15.000 G vs. 7.000 G for MPP cores and are ideal for in-line filters and for pulse chokes, where they demonstrate high energy storage.

Material	m_i	f_c MHz	$tgd_m \cdot 10^{-3}$			$Tkm \cdot 10^{-6}$ 1/°C	
			f kHz	H_m A/m			
				24	72	(-60 + 85) °C	(-60 + 155) °C
MHF 14	12...14	< 5.0	1000 3000		20.0 50.0		< 120
MHF 20	20	< 1.0	1000		30.0	< 120	
MHF 60	60	< 0.3	30 100	12.0	5.9 12.9		< 100
MHF 125	125	< 0.3	30 100	31.3	16.3 34.3	< 100	< 120
MHF 147	147	< 0.1	30 100	58.5	30.0 61.5	< 120	< 150
MHF 160	160	< 0.1	30 100	105.0	37.5 108.0	< 150	< 180

Symbols

m_i	Initial permeability	B_m	Max. magnetic flux density
f_c	Critical frequency	B_r	Residual flux density
f	Operational frequency	H_c	Coercive force
tgd_m/m	Relative loss factor	A_L	Induction factor
H_m	External magnetic field	P_{sp}	Specific bulk magnetic loss
d_h	Hysteresis loss coefficient	Tkm	Temperature coefficient of initial permeability
d_f	Resudial loss coefficient	d	Density

DIMENSIONS OF CORES

Core Shape	Dimensions, mm					
	without coating			coated		
	OD	ID	h	OD,max	ID,min	h,max
SK- type 	7	4.0	3.0	7.8	3.50	4.1
	10	6.0	3.0	10.8	5.50	4.1
	10	6.0	4.5	10.8	5.50	5.6
	12	5.0	5.5	12.8	4.50	6.6
	13	7.0	5.0	13.8	6.56	6.1
	17	10.0	6.5	17.8	9.56	7.6
	20	12.0	6.5	20.8	11.63	7.6
SP - type 	15	7	4.8	15.8	6.56	5.9
	15	7	6.7	15.8	6.56	7.8
	19	11	4.8	19.8	10.53	5.9
	19	11	6.7	19.8	10.53	7.8
	24	13	5.2	24.8	12.63	6.3
	24	13	7.0	24.8	12.63	8.1
	27	15	5.2	27.8	14.52	6.3
	27	15	6.0	27.8	14.52	7.1
	36	25	7.5	37.0	24.52	8.8
	36	25	9.7	37.0	24.52	11.0
	44	28	7.2	45.0	27.52	8.5
	44	28	10.3	45.0	27.52	11.6
	52	36	10.0	53.0	35.52	11.3
	52	36	14.0	53.0	35.52	15.3

FERRITE DOMEN Co.

8, Chernigovskaya st., 196084 St. Petersburg, Russia
Phone:+7 (812) 387 7148, Fax: +7 (812) 298 3791
e-mail: info@domen.ru **www.ferrite-domen.com**