

CMI-B

Cold Rolled Strip for Electromagnetic Applications

CMI Specialty Products, Inc.

PRODUCT DESCRIPTION

CMI-B is an ultra-low carbon, cold rolled iron strip. Special processing provides optimum magnetic properties after part formation and stress-relief annealing. The high costs and quality variations associated with decarburizing anneals can often be avoided with use of this material.

CHEMICAL COMPOSITION

	C	Mn	P	S	Si	Al	N
Typical	.005	.25	.005	.008	.005	.020	.002
Maximum	.008	.35	.020	.020	.020	.080	.010

TYPICAL MECHANICAL PROPERTIES

	SOFT COMPOSITION	TEMPERED CONDITION
Rockwell Hardness	40 RB	55-70 RB
Ultimate Tensile Strength	43 KSI	50 KSI
Yield Strength, 0.2% offset	25 KSI	45 KSI
Elongation in 2"	35%	25%

SIZE AVAILABILITY

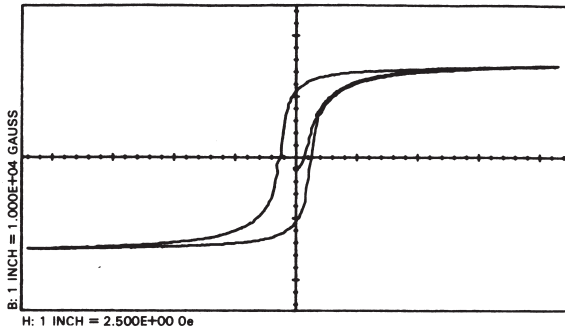
CMI-B cold rolled strip is available in a wide range of dimensions and qualities. Various thicknesses are maintained in stock for quick delivery. This product is produced at two strip producing facilities as required by order volume and dimensions. Available dimensions are as follows:

Thickness .003" to .125"
Width .250" to 24"

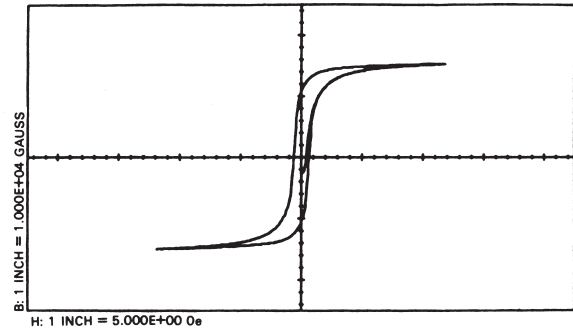
Specific needs for cold rolled iron strip with dimensions outside these stated limits should be inquired for availability.

CMI-B Data Sheet

MAGNETICS



SAMPLE 7*
RbO-61 Anneal-1350°F.,
15 min. RbA-13



SAMPLE 9*
RbO-61 Anneal-1550°F.,
15 min. RbA-9

ANNEAL SCHEDULE

- 1) Hold at 1550°F. for 1 hour.
- 2) Cool to 1450°F. in 1 hour.
- 3) Cool to 1350°F. in 1 hour.
- 4) Cool to 1250°F. in 1 hour.
- 5) Cool to 1150°F. in 1 hour.
- 6) Cool to 900°F. in 1 hour.
- 7) (A) Cool to furnace rate to 300° F. in atmosphere.
(B) Cool 200°/hr to 300°F. in atmosphere to prevent warpage of thin complicated parts.
- 8) Air cool to ambient.

MAGNETIC PROPERTY ANNEAL RESPONSE vs Rb

Sample No.		RbO	Anneal °F., 15 min.	RbA	B _{max} KG.	H _c Oe.	Br KG.	M _{umax}	M _{ui}	Loss G-Oe
1	10KG 15KG	34	—	34	10.180 15.140	2.20 2.58	7.637 9.336	2087 1994	367 423	81820 139800
2	10KG 15KG	50	—	50	9.706 15.170	2.49 2.92	7.455 9.787	1639 1761	313 366	87400 174800
3	10KG 15KG	50	1350	56	10.740 14.980	1.54 1.87	9.817 13.350	3532 4384	506 581	54290 118100
4	10KG 15KG	50	1450	13	9.780 15.130	0.47 0.63	7.750 9.738	9496 10500	838 436	18800 49955
5	10KG 15KG	50	1550	4	10.890 15.090	0.46 0.61	8.857 10.920	10550 10290	1772 725	19480 46170
6	10KG 15KG	61	—	61	10.690 14.870	2.73 3.12	7.828 9.462	1478 1562	306 322	107600 188400
7*	10KG 15KG	61	1350	13	10.490 14.950	0.52 0.63	8.650 10.630	9094 9675	1021 700	23940 48070
8	10KG 15KG	61	1450	15	10.100 15.070	0.48 0.62	7.978 9.913	9435 10130	895 1159	21490 47710
9*	10KG 15KG	61	1550	9	10.330 15.150	0.49 0.65	8.533 10.710	9853 10580	826 903	21110 47900
10	10KG 15KG	70	—	70	10.200 15.110	3.00 3.51	7.642 9.494	1328 1397	243 254	112300 205700
11	10KG 15KG	70	1350	16	10.420 15.070	0.61 0.78	8.913 11.790	8568 9780	1098 1162	26330 39120
12	10KG 15KG	70	1450	18	10.380 14.940	0.61 0.71	9.031 11.720	8841 9929	1246 872	27520 52140
13	10KG 15KG	70	1550	13	10.080 14.980	0.62 0.77	8.538 11.110	8273 9230	823 1084	23550 53330