

STEEL COMPOSITIONS

Chemical composition limits are sometimes specified for tin mill products.

Type L steel, base-metal steel, low in metalloids and residual elements, used for improved internal corrosion resistance for certain food-product containers (see Table 2).

Type MR steel, base-metal steel, similar in metalloid content to Type L but less restrictive in residual elements, commonly used for most tin mill products (see Table 2).

Type MC steel, base-metal steel, rephosphorized, with residual elements similar to Type MR, employed where greater strength is required and internal corrosion resistance is of lesser importance (see Table 2).

Type D steel, base-metal steel, aluminum killed, sometimes required to minimize severe fluting and stretcher-strain hazards or for severe drawing applications (see Table 2).

Type N steel, a modification of the base-metal steel, furnished in either Type L, MC, or MR composition, renitrogenized for greater strength. The letter N is used as a suffix, for example L-N, MC-N and MR-N (see Table 2).

Because of the varying tendency of the elements common to the base steel used for the manufacture of tin mill products to segregate in the ingot,

as well as variations inherent with steelmaking practices, check chemical analysis of the finished product may vary considerably from the ladle analysis.

Table 2
CHEMICAL REQUIREMENTS
FOR TIN MILL PRODUCTS

Element	Cast Composition, max, percent			
	Type D	Type L ^{a,b}	Type MC ^b	Type MR ^{a,b}
Carbon	0.12	0.13	0.13	0.13
Manganese	0.60	0.60 ^c	0.70	0.60 ^c
Phosphorus	0.020	0.015	0.15	0.020
Sulfur	0.05	0.05	0.05	0.05
Silicon ^c	0.020	0.010	0.010	0.010
Copper	0.20	0.05	0.20	0.20
Nickel	...	0.04
Chromium	...	0.05
Molybdenum	...	0.05
Other residual elements, each	...	0.02 ^c

^a Double-reduced tin mill products are available only in Types L and MR.

^b Type N (renitrogenized steel with 0.007 percent nitrogen, min) is available in Types L, MC, or MR. This is also applied for beer and carbonated beverage ends double-reduced plate specified as DR-10.

^c Unless otherwise agreed upon between the manufacturer and the purchaser.

Steel used by Tecre