

**M04 - METAL MELTING & CASTING, MISCELLANEOUS METALS, CRUCIBLE OR POT FURNACE, UNCONTROLLED**

**CALCULATION METHODS**

$E_a = \text{Melting (i.e. ducted)} + \text{Casting (i.e. fugitive)}$

$E_a = [U_a \times E_{Fm} \times (1 - em)] + [U_a \times E_{Fc} \times (1 - ec)] \times C_i$

$E_h = [U_h \times E_{Fm} \times (1 - em)] + [U_h \times E_{Fc} \times (1 - ec)] \times C_i$

**NOTES:**

- Annual ( $U_a$ ) and maximum hourly ( $U_h$ ) throughputs must be individually reported for each material charged.
- Emission factors are in units of (lbs PM10 / ton material charged).
- Site specific emission factors should be used where available.
- Default emission factors have been developed from AP-42. These values will be updated as additional information is generated.
- Combustion related emissions of NOx, CO, SOx, PIC's, etc. are assumed negligible but may be quantified separately using fuel combustion procedures.
- No data regarding the conversion rate of chromium to hexavalent chromium exists. At this time, the Cr+6 fraction of the PM10 total Chromium emissions is assumed to be 10% for all processes.
- Maximum hourly emissions assume a single charge and pour over a 1 hour period.

POLLUTANT	District Emission Factor (lbs/ton charged)	REFERENCE DOCUMENT	TEST LOCATION	(UNITS)	COMMENTS
NOX					
CO					
SOX					
TOG					
ROG					Assumes;
TSP	= PM10				0.1 lbs PM10 /ton charged for ducted melting emissions.
PM10	=0.1 (melt) + 0.3 (cast)	Table 12.14-2 AP-42 (1/95)	None		0.3 lbs PM10 /ton charged for fugitive casting emissions.
ALUMINUM					
ARSENIC					
BARIUM					
BERYLLIUM					
CADMIUM					
CHROMIUM HEXAVALENT	= 10% of charge Cr composition	None		lbs/lb PM10	Assume 10% conversion of Cr to Cr+6 in emissions
CHROMIUM NONHEXAVALENT	= 90% of charge Cr composition				
NICKEL					
* OTHER LISTED METALS *	PM10 = charge composition	None		lbs/lb PM10	Assume emissions profile equivalent to charge composition.
ZINC					