S75 - SHIELDED METAL ARC WELDING (SMAW), 14Mn-4Cr, Section 12.19 Table 12.19-1 of AP-42 (1/95)

CALCULATION METHODS (for Trace Metals with listed AP-42 emission factors)

$E_a = U_a \times EF$ (lbs/lb rod)

$E_h = U_h \times EF$ (lbs/lb rod)

CALCULATION METHODS (for Trace Metals without listed AP-42 emission factors)

$E_a = U_a \times EF$ (Fume generation rate lbs fume/lb rod x NASSCO Fume Correction Factor) x C_i

$E_h = U_h \times EF$ (Fume generation rate lbs fume/lb rod x NASSCO Fume Correction Factor) x C_i

NOTES:

- All emissions are assumed uncontrolled. Control efficiencies must be included in the release point information if applicable.

- Trace metals with specified emission factors listed by the EPA in AP-42 are quantified accordingly.

- Trace metals which are components of the welding rod but not identified by EPA will be quantified by the District's default procedures.

- Default fume generation rates (lbs fume/lb rod) are; 0.01 (GMAW, TIG, & MIG), 0.02 (SMAW & FCAW), and 0.05 (unspecified).

- Default Fume Correction Factors from NASSCO (Dr. Bell) are 0.5464 (GMAW, TIG, & MIG), 0.2865 (SMAW & FCAW), and 1.0 (unspecified)

- Default hexavalent chromium conversion rates from ARB analysis of AWS data are; 0.05 (GMAW, TIG, & MIG), 0.63 (SMAW & FCAW), and 0.10 (unspecified).

- Trace metal EPA emission factors for specific rods are from Tables 12.19-1 & 12.19-2 (1/95) of AP-42.

POLLUTANT	District Emission Factor	EPA REFERENCE	EPA	(UNITS)	COMMENTS
	(lbs/lb rod)	DOCUMENT	FACTOR		
NOX					
CO					
SOX					
TOG					
ROG					
TSP	8.16E-02				ASSUME PM10 = TSP
PM10	8.16E-02	Table 12.19-1 (1/95) AP-42	81.60	lb/1000 lbs rod	ASSUME PM10 EMISSION RATE = FUME GENERATION RATE (FGR)
Chromium, Nonhexavalent	1.39E-03	Table 12.19-2 (1/95) AP-42	13.90	0.1 lb/1000 lbs rod	
Chromium, Hexavalent	= 1.47E-02 x C_i	District / ARB / NASSCO Procedure	ND		EMISSIONS = U_a x FGR x 0.2865 x C_i x 0.63
Cobalt	= 2.34E-02 x C_i	District / ARB / NASSCO Procedure	ND		EMISSIONS = U_a x FGR x 0.2865 x C_i
Manganese	2.32E-02	Table 12.19-2 (1/95) AP-42	232.00		
Nickel	1.71E-03	Table 12.19-2 (1/95) AP-42	17.10		
Lead	= 2.34E-02 x C_i	District / ARB / NASSCO Procedure	ND		EMISSIONS = U_a x FGR x 0.2865 x C_i
Metals w/o Emission Factors	= 2.34E-02 x C_i	District / ARB / NASSCO procedure	ND		EMISSIONS = U_a x FGR x 0.2865 x C_i
Default Electrode Composition	**Weight %**	**Reference**			

Aluminum		
Chromium, Total	4.00%	Based on Rod Description
Cobalt		
Copper		
Lead		
Manganese	14.00%	Based on Rod Description
Nickel	0.50%	Best Estimate (Note AP-42 test data)
Zinc		

Last Updated on 8/26/99
By D. Byrnes