S70 - SHIELDED METAL ARC WELDING (SMAW), ECoCr, Section 12.19 Table 12.19-1 of AP-42 (1/95)

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

Ea = Ua x EF (lbs/lb rod)

Eh = Uh x EF (lbs/lb rod)

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

Ea = Ua x EF (Fume generation rate lbs fume/lb rod x NASSCO Fume Correction Factor) x Ci

Eh = Uh x EF (Fume generation rate lbs fume/lb rod x NASSCO Fume Correction Factor) x Ci

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 (lbs/lb rod)	EPA REFERENCE DOCUMENT	EPA FACTOR	(UNITS)	COMMENTS
NOX					
CO					
SOX					
TOG					
ROG					
TSP	2.79E-02				ASSUME PM10 = TSP
PM10	2.79E-02	Table 12.19-1 (1/95) AP-42	27.90	lb/1000 lbs rod	ASSUME PM10 EMISSION RATE = FUME GENERATION RATE (FGR)
Chromium, Nonhexavalent	= 2.96E-03 x Ci	District / ARB / NASSCO Procedure	ND	0.1 lb/1000 lbs rod	EMISSIONS = Ua x FGR x 0.2865 x Ci x (1 - 0.63)
Chromium, Hexavalent	= 5.04E-03 x Ci	District / ARB / NASSCO Procedure	ND		EMISSIONS = Ua x FGR x 0.2865 x Ci x 0.63
Cobalt	= 7.99E-03 x Ci	District / ARB / NASSCO Procedure	ND		EMISSIONS = Ua x FGR x 0.2865 x Ci
Manganese	= 7.99E-03 x Ci	District / ARB / NASSCO Procedure	ND		EMISSIONS = Ua x FGR x 0.2865 x Ci
Nickel	= 7.99E-03 x Ci	District / ARB / NASSCO Procedure	ND		EMISSIONS = Ua x FGR x 0.2865 x Ci
Lead	= 7.99E-03 x Ci	District / ARB / NASSCO Procedure	ND		EMISSIONS = Ua x FGR x 0.2865 x Ci
Metals w/o Emission Factors	= 7.99E-03 x Ci	District / ARB / NASSCO procedure	ND		EMISSIONS = Ua x FGR x 0.2865 x Ci
Default Electrode					

Composition	Weight %	Reference
Aluminum		
Chromium, Total	10.00%	Best Estimate (Note AP-42 test data)
Cobalt	5.00%	Best Estimate (Note AP-42 test data)
Copper		
Lead		
Manganese		
Nickel		
Zinc		

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