



GUIDELINES FOR THE APPLICATION AND REMOVAL OF STRUCTURAL STEEL PROTECTIVE COATINGS

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Approved By: Peter Underwood

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I. PURPOSE

These guidelines are intended to provide guidance to individuals involved in the application and removal of structural steel protective coatings with respect to the minimum acceptable control measures and the appropriate testing and disposal procedures for the generated solid waste.

II. LEGISLATION

Section 8(2)(b) of the *Environment Act*, S.N.S. 1994-95, reads as follows:

Duties of Minister

8(2) The Minister, for the purposes of the administration and enforcement of this Act, and after engaging in such public review as the Minister considers appropriate, shall

- (b) establish and administer policies, programs, standards, guidelines, objectives, codes of practice, directives and approval processes pertaining to the protection and stewardship of the environment.

III. (1) SITE SPECIFIC REQUIREMENTS FOR ENVIRONMENTAL PROTECTION

The level of protection required for any structural steel coating application or removal operation is based on the site classification as listed in subsection (2), the nature of the activity (manual or blast and spray), and whether or not the coatings contain lead.

(2) SITE CLASSIFICATION

- Class A. No residence or permanent watercourse within 200 m.
Class B. A residence or permanent watercourse located between 100 m and 200 m.

Class C. A residence or permanent watercourse located within 100 m.

Class D. Public institution, potable water supply, outdoor public recreational area, or sensitive processing/treatment facility within 300 m.

(3) LEVELS OF PROTECTION

The levels of protection are listed below and tables identifying which level is appropriate for each scenario are listed in Schedule "A". **Worker safety should be given top priority when designating enclosure systems.**

Levels of Protection

Level 1. No Enclosure

Level 2. Partial Enclosure

2A Ground sheets, or trays or tarpaulins hung beneath staging to collect debris for removal.

2B Vertically hung tarps or impermeable sheeting on exposed sides as needed to direct debris onto ground sheets, tarpaulins beneath the staging, or onto platforms where it can be collected and removed. The vertical tarps must, as a minimum, extend upwards to the elevation being worked. The tarps must have interlocking seams or be laced together, at a minimum of once every 1.0 m.

Level 3. Full Enclosure

Vertically hung tarps or impermeable sheeting on all sides, overhead cover and ground sheets or rigid platform. The tarps must have interlocking seams or be laced together, at a minimum of every 0.5 m. to reduce emission of dust to acceptable levels. Debris is directed onto ground sheets or rigid platforms for collection and removal.

Level 4. Full Enclosure with Negative Pressure

Impermeable walls, overhead cover, rigid platform. Entire enclosure to have fully sealed joints and sealed entryways. Negative air pressure by forced air flow utilizing dust collectors. Uncontrolled dust and debris is prevented from leaving the enclosure and must be collected and removed.

IV. MANAGEMENT OF THE SPENT ABRASIVE BLASTING MEDIUM GENERATED ON THE PROJECT SITE

(1) Collection and Storage of Debris

- (a) All debris collected on ground sheets, in trays or on platforms is to be removed daily and deposited in containers closed to the weather in a storage area.
- (b) Debris is not to be removed from the storage area until it is tested.

(2) Sampling of Debris

- (a) Obtain a minimum of 5 core samples of approximately equal increments selected at random from the stock piles or containers of debris.
- (b) Combine one-half of each core sample to form a field sample with a mass equal or greater than 500 g.
- (c) Divide this composite sample in two, retaining one-half for re-testing if required.
- (d) Retain individual core samples for more selective retesting of debris if required.
- (e) No special sampling tubes are required, however, the sampled material must be drawn from various levels of the stored material to give a reasonable estimate of the characteristics of the debris.
- (f) For maintenance operations where the surface area to be prepared is large and storage facilities for the collected debris are limited, sampling may be done for every 5000 ft² of surface prepared. Testing and disposal for each batch of material sampled must be carried out in accordance with paragraph (3).

(3) Testing and Disposal of Debris

- (a) The spent structural steel blasting medium must be stored and disposed of according to its classification as defined by the leachate test criteria in the Canadian General Standards Board (CGSB) provisional standard No. 164-GP-IMP. See Schedule "B" for a list of contaminants and allowable leachate concentrations. Testing for additional contaminants may be required by the Regional Manager.
- (b) The solid waste classifications are described below:

(i) Solid Waste

The spent structural steel blasting medium is not classified as waste dangerous goods if leachate produced does not contain any of the contaminants listed in Schedule "B" **at a concentration higher than that specified in Schedule "B"**. The spent blasting medium shall be transported from the project site to an approved waste disposal site.

(ii) Waste Dangerous Goods

The spent structural steel blasting medium is classified as waste dangerous goods if it produces a leachate containing any of the contaminants listed in Schedule "B" **at a concentration in excess of that specified in Schedule "B"**. The contractor or agency shall obtain agreement and approval from Nova Scotia Environment and Labour for treatment and/or disposal of the spent blasting medium.

- (c) The interprovincial transportation of waste dangerous goods must be carried out in compliance with the *Federal Transportation of Dangerous Goods Act*.
- (d) Waste dangerous goods shall be stored under cover in a secure area (fenced) until proper disposal arrangements are made.

DATED the 20th day of September, 1996.

original signed by
Peter Underwood
Deputy Minister of Environment

SCHEDULE "A"

MINIMUM ENCLOSURE REQUIREMENTS FOR APPLICATION AND REMOVAL OF PROTECTIVE COATINGS

TABLE 1 - LEAD FREE PAINTS

COATING OPERATION	SITE CLASSIFICATION*			
	A	B	C	D
MANUAL CLEANING	1	2A	2B	2B
MANUAL PAINTING (brush, roller)	1	2A	2A	2A
BLAST CLEANING and/or SPRAY PAINTING	1	3	3	3

TABLE 2 - LEAD PAINTS

COATING OPERATION	SITE CLASSIFICATION*			
	A	B	C	D
MANUAL CLEANING	2A	2B	2B	2B
MANUAL PAINTING (brush, roller)	1	2A	2A	2A
BLAST CLEANING and/or SPRAY PAINTING	2B	3	3	SITE ASSESSMENT BY DEL

SITE CLASSIFICATION:

- A. NO RESIDENCE OR PERMANENT WATERCOURSE WITHIN 200m.
- B. RESIDENCE OR PERMANENT WATERCOURSE >100m, <200m.
- C. RESIDENCE OR PERMANENT WATERCOURSE <100m.
- D. PUBLIC INSTITUTION OR POTABLE WATER SUPPLY, OUTDOOR PUBLIC RECREATIONAL AREA OR SENSITIVE PROCESSING/ TREATMENT FACILITY <300m.

***Note:** Department inspectors may require a higher level of enclosure than listed in the above tables for protection of sensitive areas.

Originating Division: Environmental Monitoring and Compliance Division
Scope: Guidelines under the *Environment Act*

SCHEDULE "B"
LEACHATE QUALITY CRITERIA

CONTAMINANT	CONCENTRATION (milligrams per litre)
Barium	100
Cadmium	0.5
Chromium	5
Lead	5