

WASHING ON CAGES

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SCOPE

Substrate: stones
Pollution: moderate to heavy
Pollutant: all types
Sea: tidal and non-tidal



EQUIPMENT NEEDED

Basic equipment:

- Cage (structure incorporating wire grids)
- Thermal washers (hot water + rinsing)
- Geomembranes

Extra equipment:

- Stone supply (manual)
- Water supply (pump + tanks)
- Effluent recovery system
- Solvents (possibly)

DESCRIPTION/PRINCIPLE

Consists of washing polluted stones using a pressure washer inside a structure which separates the effluents from the stones using wire grids and contains effluents, aerosols and various sprays. This “cage” is a light metal frame with a perforated sheet iron base, on which the stones are washed, and three lateral sides, covered with geotextile, to contain the spray of effluents and oil. All the washing effluents pass through the base and are collected in a recovery device set up under the booth (drainage ditch protected with geotextile, with filtering and absorption means etc.). Small stones can be placed in plastic mesh bags, such as oyster bags, which are turned over during washing, to stop them from being projected out of the cage.

The use of a washing agent is not always necessary.

CONDITIONS OF USE

Pollution: all types, preferably fresh or little weathered oil.
Substrate: stones.
Site: all sites.

IMPACT ON THE ENVIRONMENT

Physical: none (do not wash stones from very crumbly shale rocks).

Biological: possible risk connected to the residual presence of pollutant and products or the destruction of vegetation on stones at the top of the shingle bar.

PERFORMANCE

Yield: variable.

Waste: water, oil, soiled fine sediment (+ possibly solvent).

OBSERVATION

- Provide the necessary protective equipment: overalls, oilskins, boots, gloves, head gear, glasses, masks. Users are exposed to a lot of dirt, containing potentially toxic particles (aerosols).
- Very little space required, quick to set up.
- The polluted stones are collected by hand and returned to the lower end or middle of the beach to be finished by natural cleaning.
- Extremely heavily polluted sediments will need to be scraped beforehand.
- Recover the released oil.
- Rotate users (on the following basis: 1 spraying, 1 monitoring machine and water supply, 1 recovering effluents).
- Use thermal washers which are suitable for seawater and can be easily transported.
- Plan on maintaining and repairing washers on site.
- Using hot water without high pressure can be a good solution for releasing the pollutant without “blasting” it.
- Using a washing agent is not always necessary. Tests can however be carried out to assess the potential gain. Only use a product that has been tested by a recognised organisation (for efficiency, toxicity, biodegradability).