

INSTRUCTIONS FOR USE

Construction Specification 64 – Wire Mesh Gabions and Mattresses Twisted (Woven) or Welded Mesh

1. Applicability

Construction Specification 64 is applicable to the installation of wire mesh gabion baskets and mattresses, including bedding, filter, or geotextile where specified.

2. Material Specifications

The following material specifications complement Construction Specification 64:

- 521 – Aggregates for Drainfill and Filter
- 523 – Rock for Riprap
- 592 – Geotextile

Construction Specification 95, Geotextile, also complements this specification.

3. Included Items

Items to be included in contract specifications and drawings follow:

- a. Complete drawings showing alignment, layout, size of baskets or mattresses required, interior support details, lacing, connecting or fastening plans as applicable, and any other related appurtenances or details
- b. Gabions designated as basket or mattress, as appropriate. Type of gabion construction: twisted or welded mesh.
- c. Specify in Section 8 if alternate ring fasteners as recommended by the manufacturer are to be allowed for basket interconnection and closure of tops. The specification only allows the use of alternative ring fasteners for the assembly of empty gabion baskets or mattresses. If it is determined that the use of these fasteners can provide a minimum strength of 1,400 pounds per linear foot for gabions and 900 pounds per linear foot for gabion mattresses, then Section 8 of this specification may be used to allow their use to join gabions and to close the lids of gabions. The manufacturer's recommendations are to be

- followed concerning the proper interlocking of fasteners and their spacing to attain the required strength.
- d. Specify in Section 8 the type of wire (plain, galvanized, or PVC coated) if specific design requirements need to be met, coating color, and any special requirements, such as different wire size or mesh openings, as applicable. Note in Table 2 of the construction specification that only PVC coated gabion mattresses are specified.
 - e. Details of bedding, filter material and/or geotextile including gradation for material, compaction requirements of material, class of geotextile, and any special requirements, if required. Refer to the respective construction specifications as applicable. Both types of gabions perform best when placed on relatively smooth and unyielding foundations. A coarse aggregate or a stone leveling course can be successfully used under gabions to enhance good support and grade control.
 - f. Source of rock and prequalification of other material as appropriate
 - g. Rock size if different than that specified
 - h. Requirements for concrete cap, if applicable, including location and placement details. Include and refer to Construction Specifications 31, 32, or 33 as necessary.
 - i. Rockfill and lid closure requirements for gabions placed on a slope to serve as a chute with flow down the top surface. These gabions must be filled as densely as possible to avoid movement and distortion during design flow events.
 - j. The specified batter to the front face of vertical gabion walls. A minimum wall batter of 6 degrees is recommended (1 horizontal to 10 vertical). Where possible, design stepped faced gabion walls instead of vertical faced walls.
 - k. Method of measurement and payment in Section 8

4. Methods

Section 7, Measurement and Payment

Method 1 – Used when payment is to be made for gabions or mattresses and rock filler. Bedding, filter, or geotextile is to be paid under a separate item.

Method 2 – Used when payment is made for gabions or mattresses and rock filler including the bedding or filter and geotextile. Include a description of the subsidiary items in Section 8 of this specification and in the items of work and construction details of the appropriate companion construction specification.

Method 3 – Used when payment is to be made for gabion mattresses and rock filler. Bedding, filter, or geotextile is to be paid under a separate item of work.

Method 4 – Used when payment is made for completed gabion mattresses and rock filler including the bedding or filter and geotextile. Include a description of the subsidiary items in Section 8 and in the items of work and construction details of the appropriate companion construction specification.

When all methods but is deleted for use in a contract specification, delete from the last paragraph “*All Methods – The following provisions apply to all methods of measurement and payment.*” Left justify the remaining text.

5. Items of Work and Construction Details

Starting at the top of page 64–6, prepare and outline job specific "Items of Work and Construction Details" (IWCD) in accordance with these instructions. For ease of utilization, the use of recyclable color paper for the IWCD should be considered.