

Quarry run. This category includes everything from the finest material of the quarry yield up to a maximum size in the blastpile and is best described as 0– M kg. Consequently, the production simply consists of removing the oversize. This can easily be done with a wheel loader or an excavator. When using a wheel loader, the large size of the bucket and the limited visibility of the driver will make it practically impossible to produce a lighter core material than 0–1000 kg. Using an excavator with a smaller bucket and digging towards the cabin could produce a 0–500 kg material. Note that the grading of the *muckpile* gets finer when digging deeper into it.

Processed core materials. This material is produced by removing both the oversized and fines, generally by means of a robust static grizzly (see Box 3.33). Due regard should be given to the lower cut-off value since it significantly affects the amount of by-product for which an alternative use should be found. Changing the lower limit from 1 kg to 5 kg may effectively lead to rejection of an extra 10 per cent of quarry yield (see also Section 3.4.4).

3.9.7.4

Technologies for the different selection or processing methods

This section presents different techniques or tools suitable for armourstone production, illustrated in Boxes 3.30–3.35 as follows:

- crusher (Box 3.30)
- selection hill (Box 3.31)
- trommel screen (Box 3.32)
- bars or static grizzly (Box 3.33)
- barsizer unit (Box 3.34)
- sidekick (Box 3.35).

Vibrating screens and grizzlies may be used for production of coarse grading armourstone provided they are sturdier than traditional aggregates screens. They can be located after the primary crusher with possible adjustment of its characteristics to produced gradings with nominal upper limit up to 100 kg or 200 kg (see Box 3.30). This may be appropriate for production of gabion stone, for instance. The vibrating screen decks will need to be adapted to handle the larger stones. Constraining the maximum feed size and the smallest mesh or hole opening will generally prevent damage. Typical limitations are given in Table 3.32.

Table 3.32 Limitation of screening device to limit damages

	Maximum feed size	Minimum passing size
Grizzly	~ 120 kg	~ 100 mm (1.7 kg)
Holed steel plate	~ 200 mm (13.0 kg)	150 mm (5.6 kg)
Woven wire mesh	~ 125 mm (3.2 kg)	75 mm (0.7 kg)

NOTE: It is easier to make round holes in a steel plate in a workshop than to make square ones. The diameter should be increased by 1.23 times the width of a square hole needed for a similar screening result. However, a steel plate with round holes has a lower screening capacity. Bigger screening areas and decks are therefore required for similar production rates.