The method of backfilling of the spent quarries includes simultaneous dumping of overburden into the dump from the opposite long sides of the quarry and backfilling of the peripheral and central parts of the quarry by parallel drifts with uniform movement of the dumping front to the waste. Before filling the overburden at the bottom of the pit, strips are disturbed along its long sides and blasted towards the central part of the pit to form excavations along the specified sides of the pit and a stopper prism in the central part of the pit in the form of a target in the lower part of the stopper prism and a pile of blasted rocks in its upper part. The peripheral part of the quarry is backfilled on the target part of the stopper prism. The central part of the quarry is backfilled on the pile of blasted rock of the stopper prism.