

ARCHES.

64. A distinction will be made between arches of 10 feet span and upwards and those of 8 feet span and under, the former will be classed as first class arch masonry, and the latter as second class arch masonry, although they may be constructed on walls of second class work, they will be classed as first class arch masonry. Arches of 8 feet span and under will be classed and paid for as second class arch masonry. Arches of 10 feet span and upwards will generally be semi-circular.

65. First class arches shall be constructed of stones cut so that when laid, their joints will radiate truly from the centre of the circle, the depth of stones will of course be in proportion to the span, but will never exceed thirty inches, they shall not be less in length than 27 inches and they shall break joint 10 inches; their thickness on the face must be at least 9 inches and it shall be dressed to the circle. All the stones must be dressed to the full depth of bed so as to give truly radiated joints from the face to the back of an inch, they shall be set without pinning of any kind and the end joints shall be properly squared. Each stone shall be full bedded in cement, and each course afterwards thoroughly grouted. The outer ring stones shall be neatly worked with a chisel and each stone shall be laid flat around their edges.

66. Second class arches shall be constructed of suitable flat bedded stones, ranging from 16 to 24 inches deep and with a minimum length of from 16 to 24 inches, and 5 to 6 inches in thickness on the soffit, they shall invariably extend through the entire thickness of the arch. Each stone shall be well and closely fitted so as to give half inch joints and shall break joint with its fellow 7 to 9 inches. The whole shall be laid in thin mortar, and each course shall be well grouted immediately after being laid. The outer arch stones shall be as nearly uniform in thickness as possible, of large size and neatly incorporated with the perpendicular face of the masonry. The key stones shall be 10 or 12 inches on the soffit, shall have a chisel draft around their edges, and shall project beyond the face of the wall 2 or 3 inches.

67. Arches of each class shall be built in cement, and before being covered with earth or the centering removed, they shall be thoroughly flushed on the back, levelled and rounded to a moderately even and smooth surface with cement.

68. Centering for arches shall in all cases be well formed, of ample strength, securely placed in position and in every respect to the satisfaction of the Engineer. The ribs shall not be placed farther apart than 3 feet in any case. The laggings shall be cut to a scantling of 3 inches square. The supports of centres shall be substantial and well constructed, and they must be provided with proper wedges for easing centres when required. Structures having more than one arch shall be provided with as many centres as the Engineer may deem proper, and in no case shall the centres be struck without his sanction. Centering and scaffolding of all kinds shall be provided by the Contractor and the cost must be covered by the price for the masonry.

69. All masonry shall be neatly and skilfully pointed, but if done out of season or if from any other cause it may require repointing before the expiration of the