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MODEL CLAUSES FOR CIVIL ENGINEERING WORKS

SECTION 121

BRIDGE INSTALLATION BY SLIDING OR ROLLING

NOTES TO SPECIFIER:

These notes do not form part of the Specification.

General

121.1 *There appears to be little technical literature on either sliding or rolling, such information presumably being deemed commercially sensitive.*

Detailed information on proposed systems should, therefore, be obtained on request from specialist contractors, or from those companies who have developed their own systems.

Choice of system

121.2 *In producing these Model Clauses, the principle that the Contractor is responsible for selecting the type of system to be used has been followed.*

So that the most cost-effective solution is achieved, and to give the Contractor the widest possible scope to use his ingenuity and experience, no restriction has been placed on the type of system to be used. The Contractor may choose to offer a sliding system, a rolling system utilising balls or rollers, or any other system. It will be for the Contractor to demonstrate that his proposals meet the requirements of the Specification.

Coefficients of friction

121.3 *A variety of systems are available using different combinations of materials at the sliding interface. The actual coefficients of friction will depend on the characteristics of the particular materials used.*

However, as a guide, the coefficient of friction at breakout is likely to vary between a minimum of 5% and a maximum of 12%. Once sliding is stabilised, the coefficient generally reduces to between 2% and 8%.

The comparable figures for rolling on 3" diameter balls are around 10% at breakout, reducing to 2½% rolling.

Figures quoted by a company specialising in moving bridges on roller systems suggest that the coefficient of friction is 2.4% or less for both breakout and rolling.

Breakout may be defined as the point at which the pushing or pulling force reaches a value high enough to overcome static friction so that movement commences.