

ENGLISH SUMMARY

SOME OBSERVATIONS CONCERNING THE RELATIONS BETWEEN POISSON'S RATIO AND YOUNG'S MODULUS OF CONCRETE

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Nowadays, we wish to know exactly how a structural member should be designed and how it will act. For this purpose, we have resort to electric computers and rigorous laws of elasticity. However, the new requirements imposed upon building materials also demand exact knowledge in regard to its elastic properties. In this respect, the Poisson's ratio of concrete has been taken into consideration with the aim of finding, for this quantity, a value which is both average, and suitable for practical application.

Accordingly, the most central object of the investigation was Poisson's ratio. It became apparent that alteration in its value was rather small, varying between the limits $1/6$ - $1/5$. Higher values were also found, but their existence seems dependent upon the age of concrete. Moreover, a great deal of interest was attached to the alteration in Young's modulus, or in fact its constancy. The article sheds some light upon this point.

The Poisson's ratio was determined by means of test specimens $20 \times 20 \times 100$ cm in size. The compressive force was exerted by a Losenhausenwerk universal testing machine, and the strain was measured by means of Mays & Sohn deformeters. In the direction transverse to the force, the strain was measured by Strain - Gauge straps.