

II - EXPERIMENTAL PROCEDURE.

The apparatus called "X type anvil" has already been described (31) (32) (35) and first presented at the Eindhoven meeting of the European High Pressure Research Group (1966). It consists of a die and of pistons with a special shape as shown on figure 1. It allows to build, inside a volume which is identical to that of a "belt", higher pressures without damage. The cell body is made of pyrophyllite and the gaskets are of a mixed type, that is to say they consist of a pyrophyllite ring and of a teflon ring (figure 1).

The experiments have been carried out by recording simultaneously the resistance of two reference metal samples at room temperature. This procedure eliminates the lack of reproductibility of the calibration curve. The specimens located side by side, at 1 mm from each other, inside a teflon cylinder ( $\varnothing = 4$  mm h=3mm) which was in the center of the cell. (figure 2). The metal samples were 0,5 mm in diameter and 4 mm long wires. The electrical connections were established between the pistons and the chamber. The chemical analysis of the samples is given in table 3.

At the same time that the resistance changes were recorded, the displacements of the pistons towards each other were measured, making use of 4 dial gages located at 90° angle around the high pressure apparatus (figure 3). All the measurements have been carried out during the first increase in pressure run and the loads have been measured with strain gage dynamometer.

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