

thermostat temperature and column 5, the ratio of the helium to hydrogen permeability from permeabilities calculated to two decimal places.

The mean value of the ratio from Table II is 0.66, from Table III (omitting skin-lined fabrics) is 0.72. As the ratio with fabric 2 was abnormal, additional tests are being carried out on this fabric to ascertain the reason. For the two skin-lined fabrics the ratio is about unity. Additional tests of higher accuracy are also being made on these fabrics. Barr<sup>1</sup> concludes that the ratio for gold beaters' skin is about 1.5, with a footnote that this ratio may probably be more nearly equal to unity.

TABLE II  
*Interferometer Results*

Lab. No.	Sample Mark	Permeabilities		Temp.°C	Ratio
		Hydrogen	Helium		
VII	A	9.4	6.1	15.5	0.65
II	B	8.4	6.5	15.5	0.77
III	B	7.5	5.0	15.5	0.67
VI	B	7.6	4.6	15.5	0.61
V	B	6.7	4.1	15.5	0.61
IV	B	5.5	3.5	15.5	0.64
					Mean 0.66

<sup>1</sup> Barr. *Loc. cit.*