comes more stable than graphite, diamond and other type of carbides under high pressure.

V. Conclusions

The structures obtained in the pressure range examined in the present study do not show a great difference in general compared with those which are usually obtained in the isothermal transformation at atmospheric pressure, except some changes due to the shifts in equilibrium diagram caused by pressure.

However, in a relatively lower temperature range in which acicular bainite would be expected at atmospheric pressure, the " columnar bainite " and the " aggregate " structure are observed.

It is shown that the transitional condition from " columnar bainite " to " aggregate " structure depends upon the increase of pressure or temperature and the presence of impurities in the specimen.

The rates of isothermal transformation both in the Fe–C alloys and the commercial steels are retarded by pressure over all temperature range, and the retardation is fairly larger in the latter. With increasing the pressure from 29 to 38.5 kbar in all alloys and steels, the incubation time always increases by approximately five times.

The shape of carbides in the 1.11%C commercial steel changes from spherical to acicular with an increase of pressure from 29 to 38.5 kbar, but the exact reason for this is not clear yet.

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