Chapter 6

Conclusion

The objective of the present thesis was the study of causes and prevention measures of a surface defect called bloom occurring in a tableware glass factory. After the investigation was completed, it is recognized that the glass surfaces are weak both from effects of the production process such as forming and annealing and from the glass formula itself. The surface investigation by SEM leads to the assumption that the mould material and hot glass melts are sticking. This phenomenon causes local surface damages. The tendency of the bloom formation is high in these areas.

The other important factor which supports the development of bloom is the atmospheric conditions in warehouses with high relative humidity.

From this *in situ* study, the parameters influencing the bloom formation in this factory are compiled by priority as follows:

1. The sticking phenomenon between moulds and hot glass melts
2. The atmospheric conditions in warehouses
3. The glass formula
4. The production processes, for example, forming and annealing

Concerning the preventions, there are three main options depending on the decision of the authorized persons in the factory. These are:

1. The adaptation of the workability of glass including the study of the effiency of moulds to avoid "sticking"

2. Raising the temperature in the warehouses by a few centigrades in order to reduce water condensation

3. Reformulation of the glass formula towards a glass with higher hydrolytic stability.

The methodology and evaluation of this work could also be a guideline for other glass factories facing the same problem.