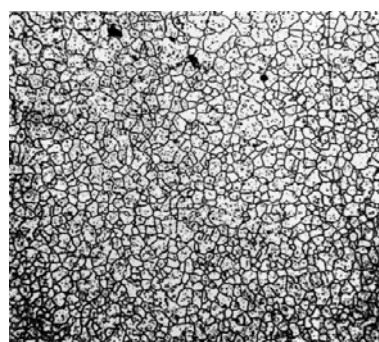
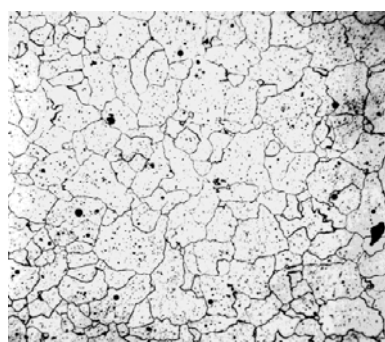


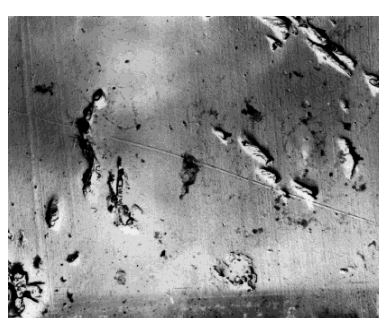


The Fe-Cr alloys and the influence of high velocities of crystallization upon their structure formation and mechanical properties

The substantial changes take place in the microstructure of Fe-Cr alloys under the velocities of crystallization about $\sim 150^{\circ}\text{C/s}$. The modifying role of zirconium with the containing of chromium about 35-45% is shown



In consequence of the “vacancy - nitrogen atom” complex existing the precipitate of nitride fractions from matrix upon the structure heterogeneity's states place, and it has good influence upon the mechanical properties.



Mechanical properties of Fe-Cr alloys

| Alloys | σ_B , КГ/ММ ² | σ_T , КГ/ММ ² | δ , % | ψ , % |
|-------------------------------|---------------------------------|---------------------------------|--------------|------------|
| Beginning Fe-35%Cr-0,1%N | 40 | 38 | 1,5 | - |
| Beginning + modifying Zr | 53 | 48 | 3-5 | 4-6 |
| Fe-45%Cr-0,1%N + modifying Zr | 75 | 68 | 3 | - |

