

Yüksek basınçlı dökümde piston doluluk oranının poroziteye etkisi

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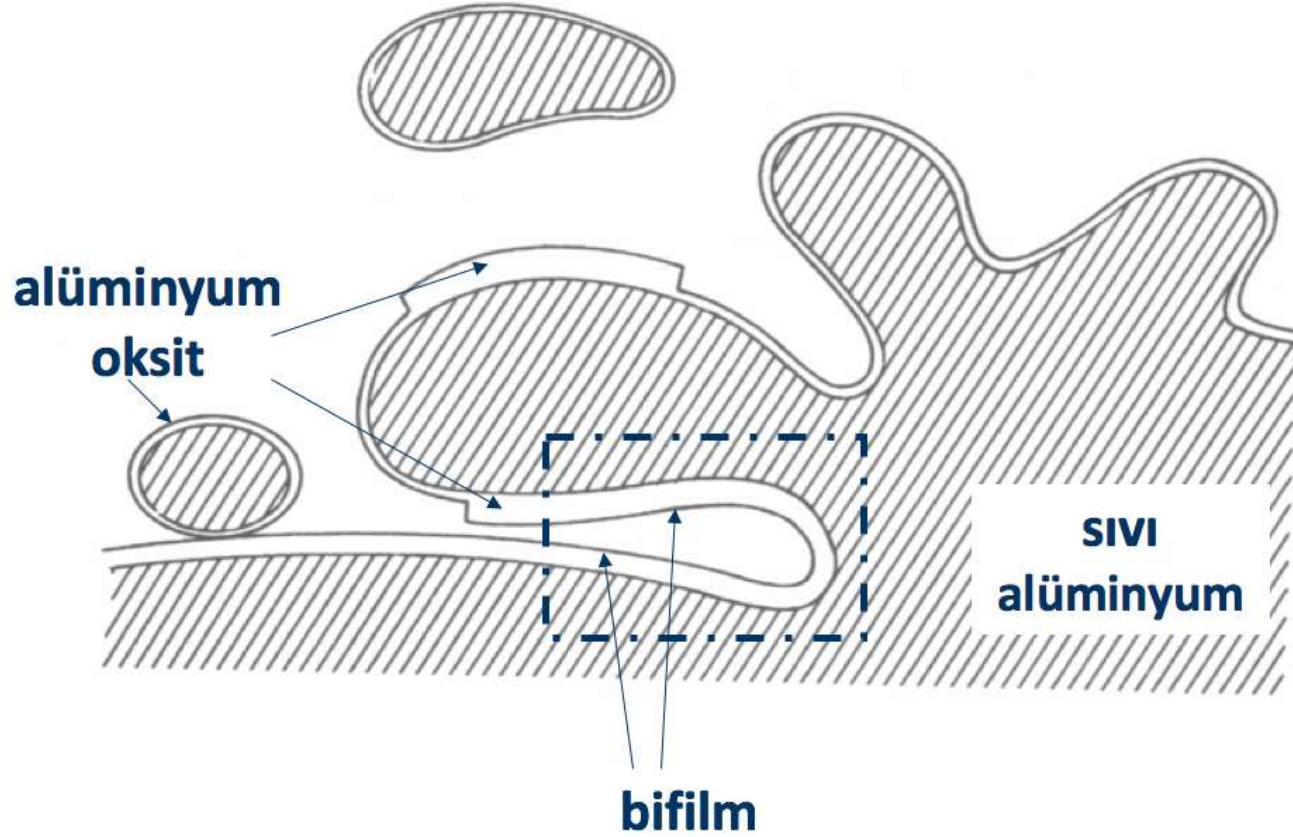


Motivasyon

Yüksek basınçlı dökümde
kalıp doluluk oranı ile fire oranı arasındaki ilişki



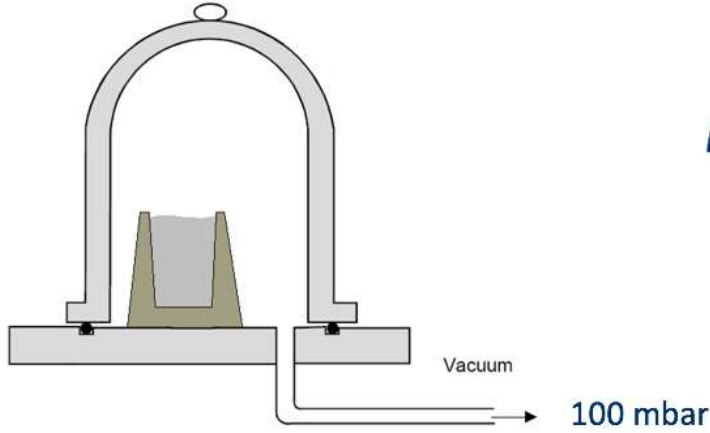
Döküm kalitesi



Porozite oluşumu



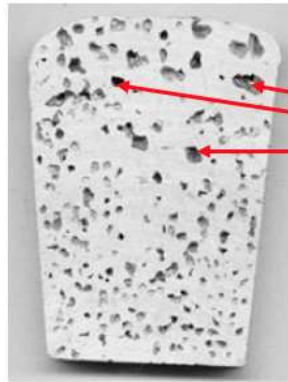
Sıvı metal kalitesi



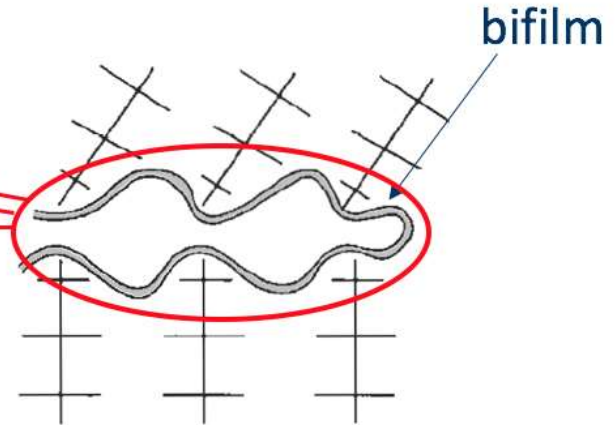
$$\text{Bifilm Index} = \frac{\sum(\text{max porozite boyu})}{\text{toplam oksit uzunluđu}}$$



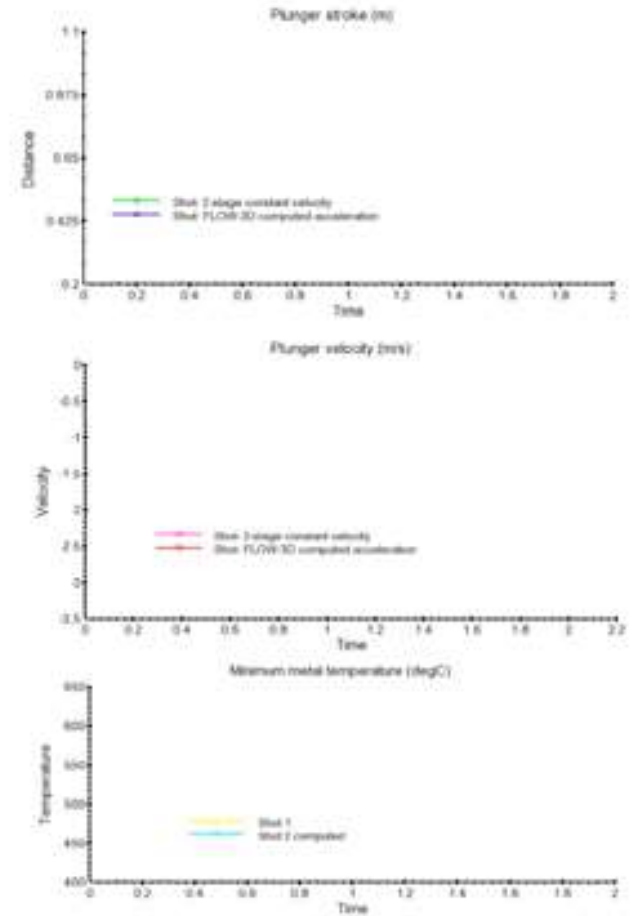
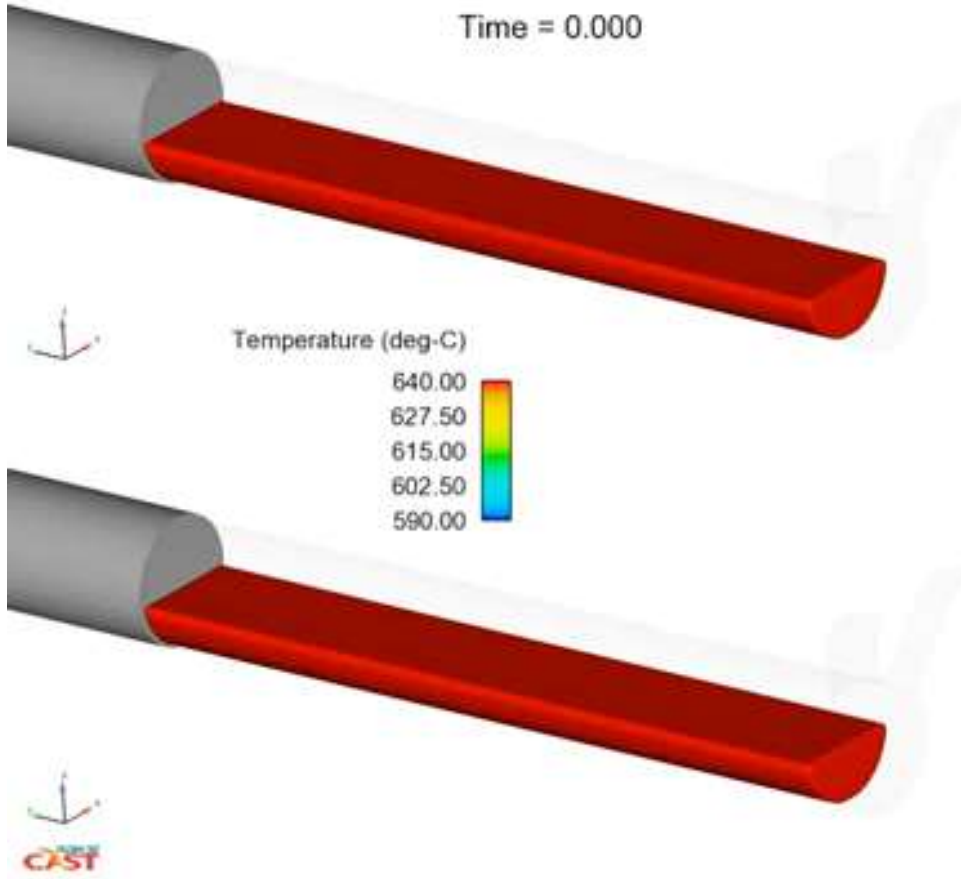
hava



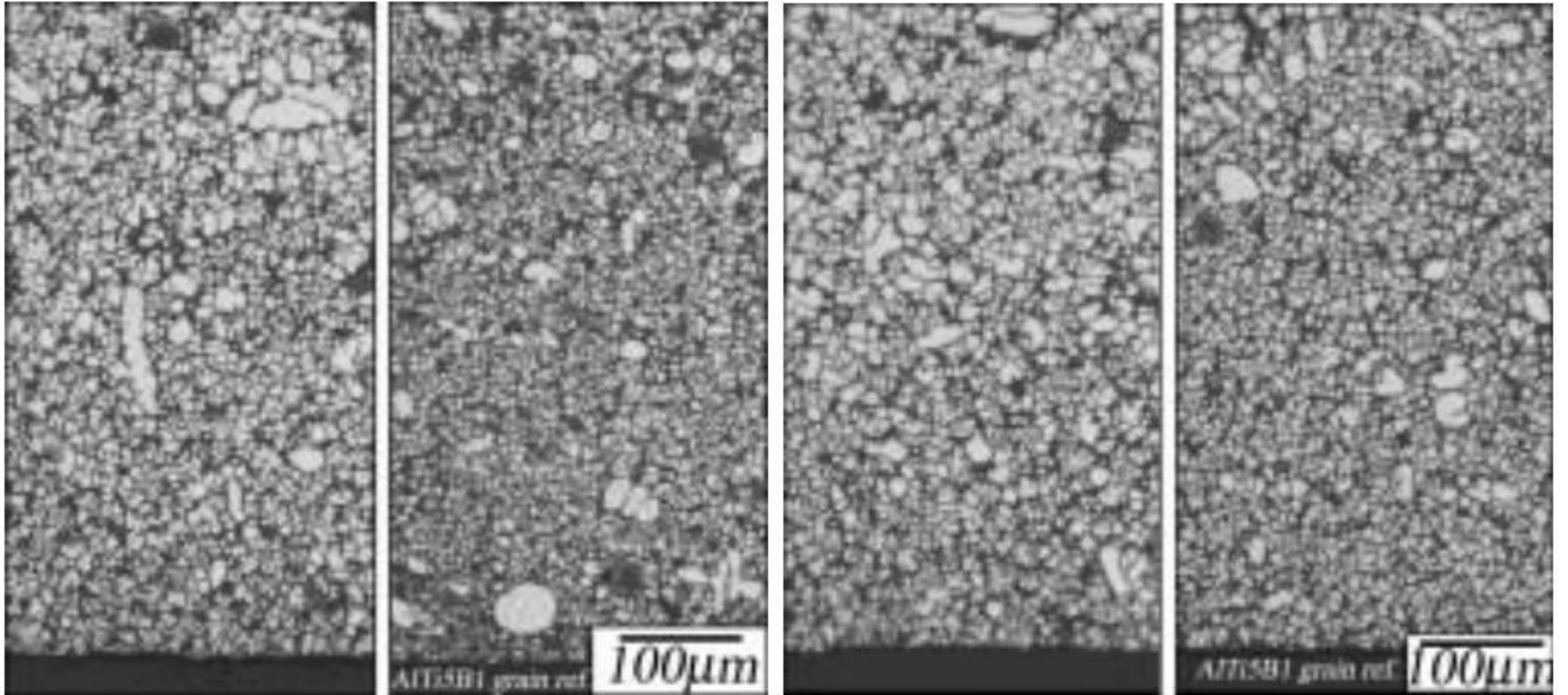
vakum



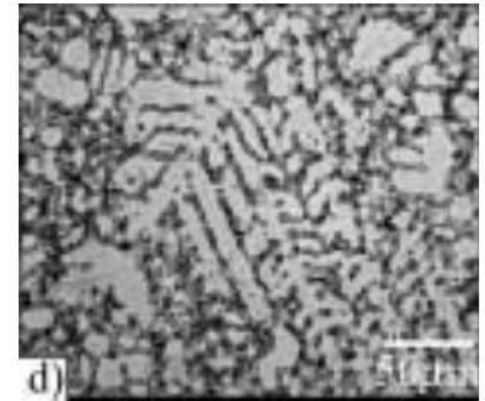
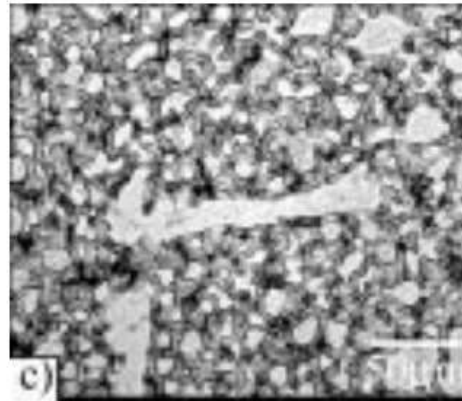
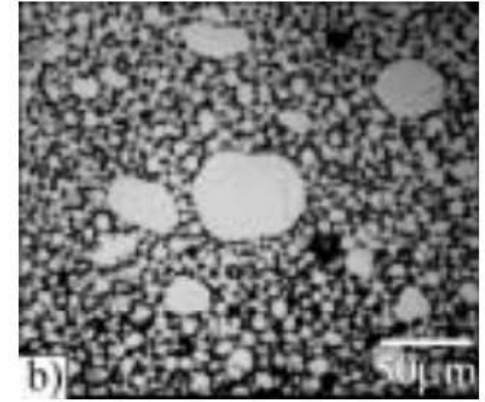
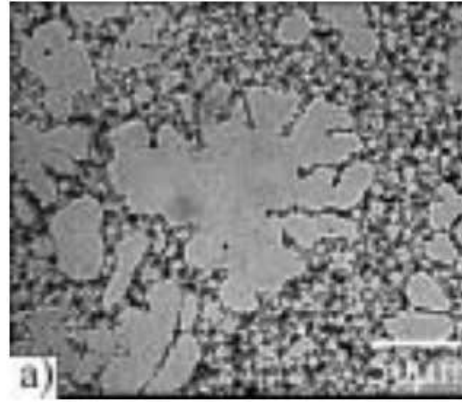
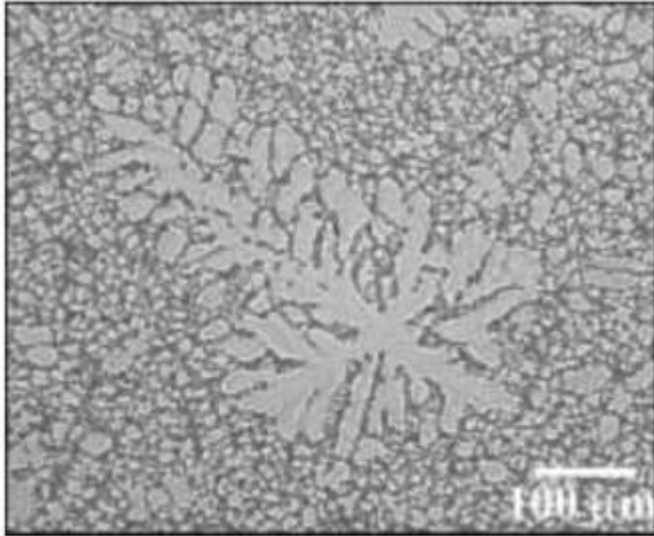
Piston doluluk oranı



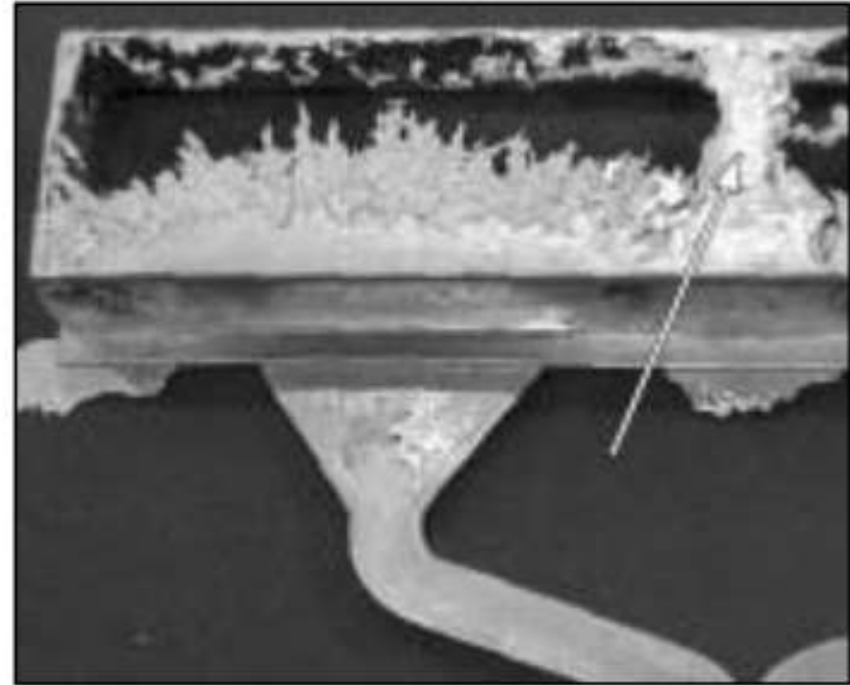
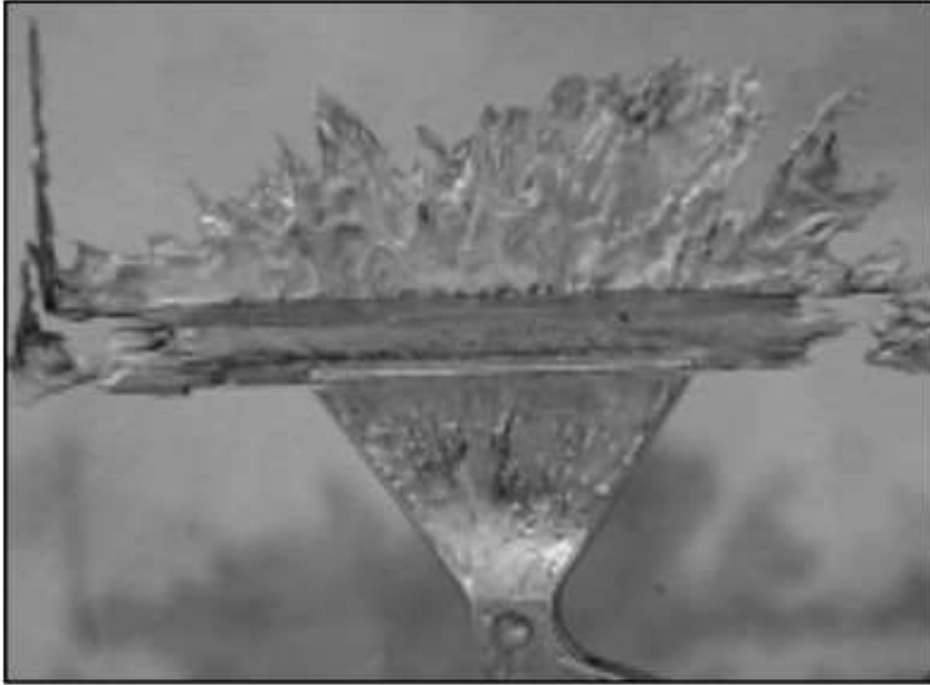
Erken çekirdeklenme

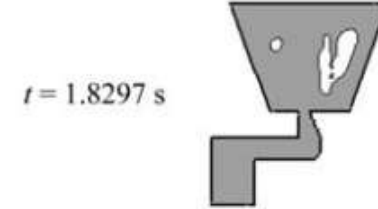
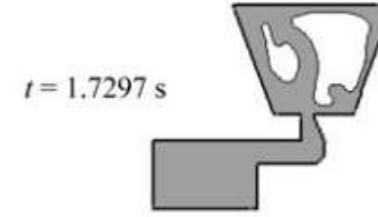
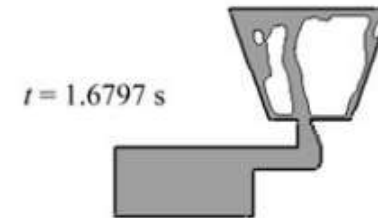
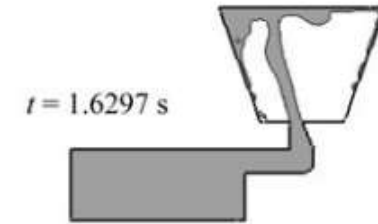
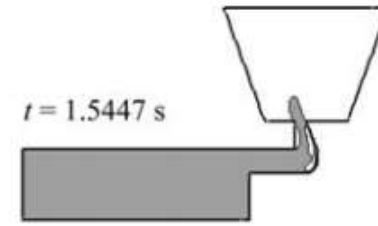
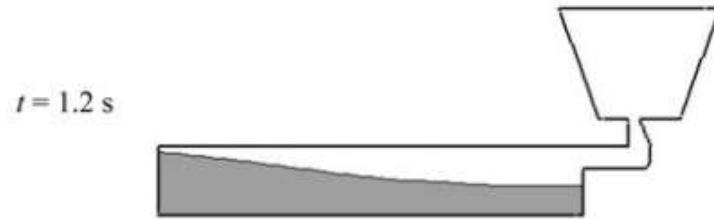


Döküm hataları

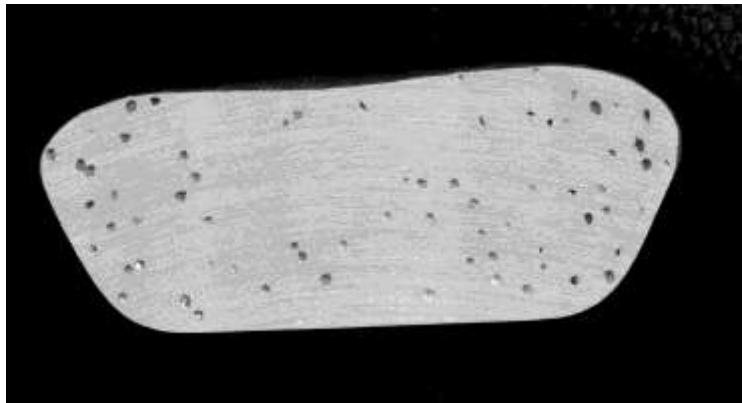
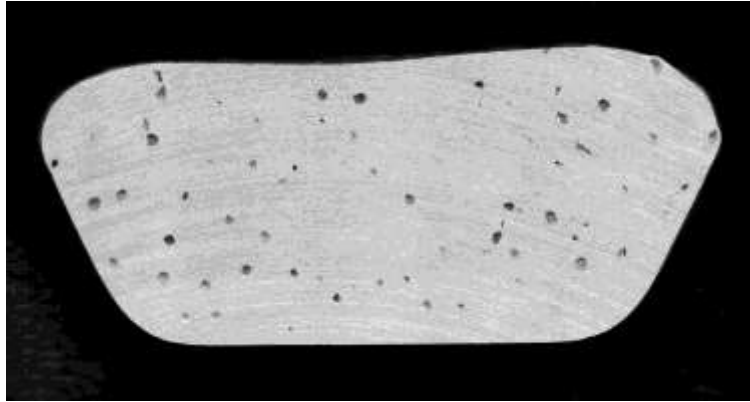


Kalıp dolumu



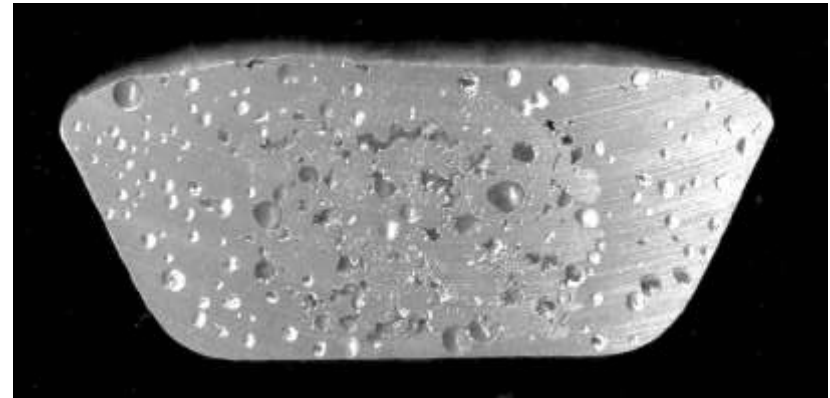
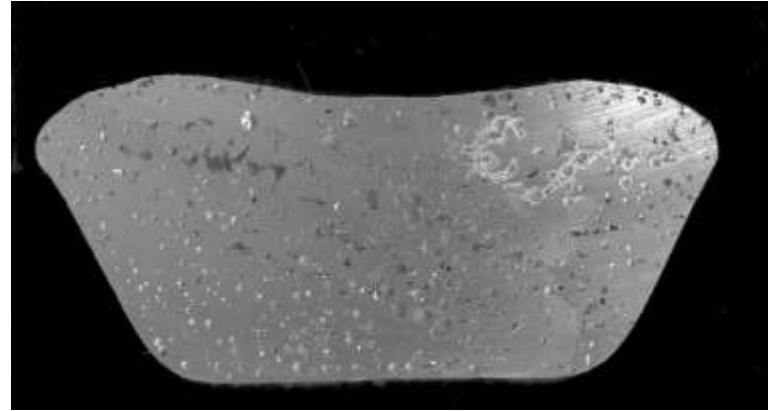


Türbülanssız dolum

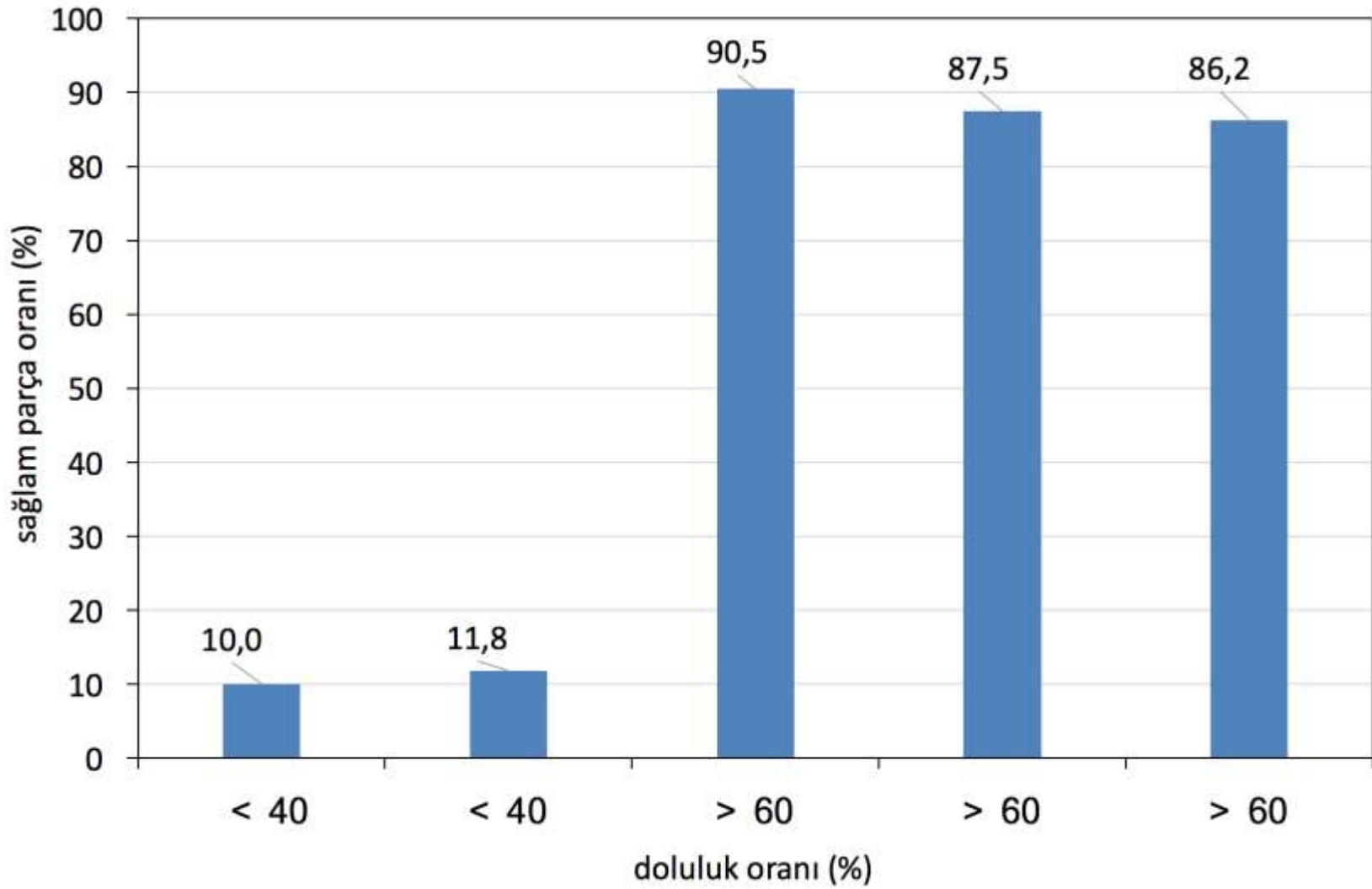


Bifilm index: 60 mm

Türbülanslı dolum



Bifilm index: 210 mm



Sonuçlar

- Piston doluluk oranı ile fire %si arasında yakın bir ilişki vardır
- Türbülanslı dolum ile sadece porozite oluşumu değil, oksitler de (bifilm) döküm parçası içerisine karışmaktadır
- Piston doluluk oranı yanısıra kalıp dolumu da nihai ürün kalitesine etki etmektedir

TEŐEKKÜRLER

