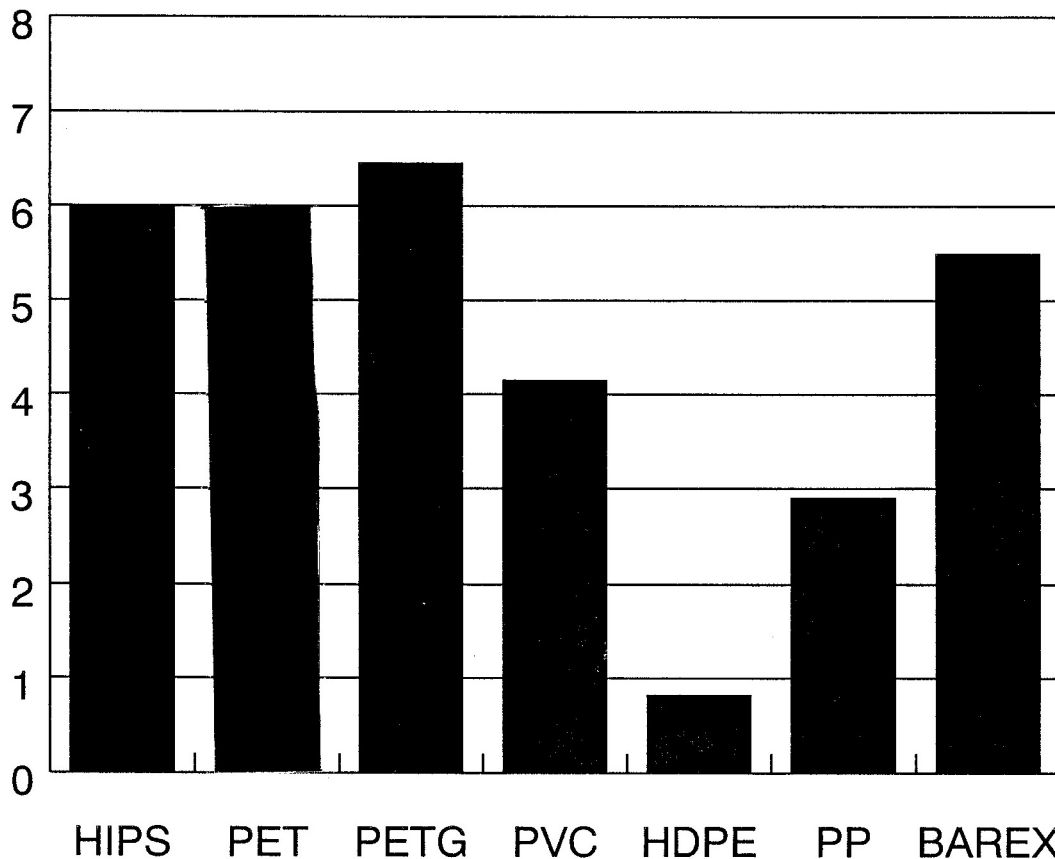


## Heat Sealing Polyester

From: Don Hacker – Advanced Extrusion

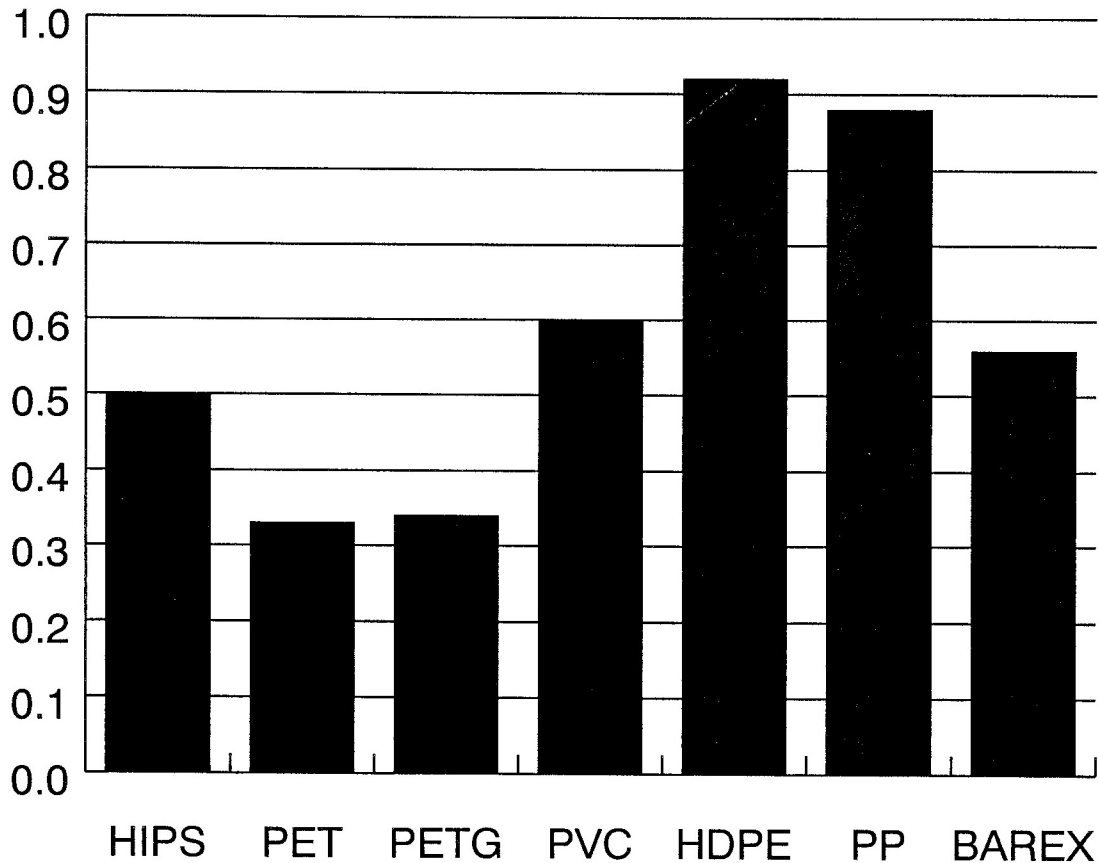
Please consider the data below from the Advanced Extrusion web site: What you will see is the PET is quite different from the PVC you used to use. PVC likes to be sealed cool and slow, while PET/RPET likes to be sealed hot and fast.

### Thermal Conductivity ( $\frac{10^{-4} \text{ cal cm}}{\text{sec cm}^2 \text{ } ^\circ\text{C}}$ )



As you can see, the thermal conductivity of RPET/PET will allow it to accept heat 25% or more faster than PVC. This means a shorter dwell time and a narrower processing window, but a more efficient process.

## Specific Heat At Processing Temperature ( $\frac{\text{cal}}{\text{gr } ^\circ\text{C}}$ )



As you can see the RPET/PET will give up the heat that is in it almost 50% faster than PVC. This also means a shorter dwell time and a narrower processing window, but again a more efficient process.

Also, RPET/PET has a higher vicat softening point, or the temperature the plastic gets sticky at, than PVC. All this means we need to take your heat sealing process in a different direction for RPET/PET than what you are used to in sealing PVC

First, I would recommend you start by adjusting your platen temperature. I would recommend you set your platen temperature at between 240F (116C) to 295F (146C).

Second, when your platen is up to temperature, start your rotary sealer. What I would like you to look for are white edges. This means the plastic is too hot and is becoming crystalline and hard to seal. Rather than cool down the platen, please speed up your rate of indexes per minute. I recommend you lower the platen temperature only when you have reached the maximum effective number of indexes per minute.

Low platen temperatures can also crystallize RPET and PET so be careful to avoid long dwell times on platens below 240F (116C) so when in doubt run hot and fast.

Please do not hesitate to contact me on my cell phone at 320-266-7381 if I can help in any way.

Respectfully submitted,

Don Hacker  
Advanced Extrusion Sales  
320-266-7381