

Performance Catalog Analytical Evaluation

The suggested range of analytical tests in conjunction with the different laboratory or pilot trials and material investigations can be reduced or enlarged on customer request. Sample amount chemical analysis 1.1 – 1.15 in total about 200g. Sample amount further testing on request.

1. Pellet, preform, bottle tests for:
1.1 IV
1.2 Melt Index Davenport
1.3 COOH
1.4 Color of pellets, preforms, Engel sheets
1.5 Oligomers by HPLC
1.6 MWD by GPC
1.7 Comonomeren (IPA,DEG,CHDM)
1.8 Water determination Karl Fischer
1.9 AA in PET
1.10 AA in water
1.11 FA + AA in PET (HPLC)
1.12 TGA
1.13 Crystallization grade by density
1.14 Crystallization distribution
1.15 DSC (Tg; Tm; Tc; Tcc; Xc; Xcc)
2. Injection molding test/ preform characterization
2.1 Manufacturing preforms
2.2 IV
2.3 Color
2.4 AA
3. Stretch blow-molding test/ bottle performance
3.1 Manufacturing bottles
3.2 Stress cracking
3.3 Top load
3.4 Burst pressure
3.5 Filling bottles for Migration test
A in water)
3.7 Migration (FA in water)

4. D 20 Brückner biaxial Film Stretching
4.1 Milling
4.2 Compression Molding (5 Plates)
4.3 Film Stretching at one temperature
5, Permeation
5.1 Milling
5.2 Compression Molding (5 Plates)
5.3 Film Stretching
5.4 CO ₂
5.5 O ₂
6. Microscopy
6.1 Sample preparation
6.2 A) thin slices(10 µm) by microtom
6.3 B) embedding, grinding and polishing
6.4 Microscopy in transmitted light
6.5 Microscopy in incident light
7. Metal determination
8. FT/IR analysis
9. NMR analysis
10 Electron Beam Microscopy Analysis
11. GC/MS

12. Characterization of oligomers
12.1 oligomer distribution
12.2 IV
12.3 COOH
12.4 ash content
12.5 anions + cation
12.6 color
12.7 content of comonomers

Performance Catalog Projects Synthesis & Application Tests

13. Melt polymerization
lab scale 2-4 kg melt reactor with the following material characterization
IV
MWD
Comonomers (IPA,DEG, CHDM)
color
AA
COOH
AAS

14. Pilot Plant
pilot plant scale 50-70 kg melt reactor with the following material characterization
IV
MWD
Comonomers (IPA,DEG, CHDM)
color
AA
COOH
AAS (Sb,Co,P)

15. SSP
lab scale 100- 150 g SSP reactor with the following material characterization
IV
MWD
color
AA
COOH
DSC

16. SSP
pilot plant 100 - 250 kg SSP reactors with the following material characterization
IV
MWD
color
AA
COOH
DSC

17. Injection Molding Test
Manufacturing preforms DEMAG 8 cavity IMM
IV
color
AA

18. Stretch Blow Molding Test
Manufacturing bottles Krupp Corpoplast 0,5 l CC
stress cracking
top load
burst pressure
filling bottles for migration test
Migration (AA in water)
Migration (FA in water)

19. D20 Brückner biaxial film stretching
milling
compression molding (5 sheets)
film stretching

20. Permeation
milling
compression molding (5 sheets)
film stretching
CO2
O2