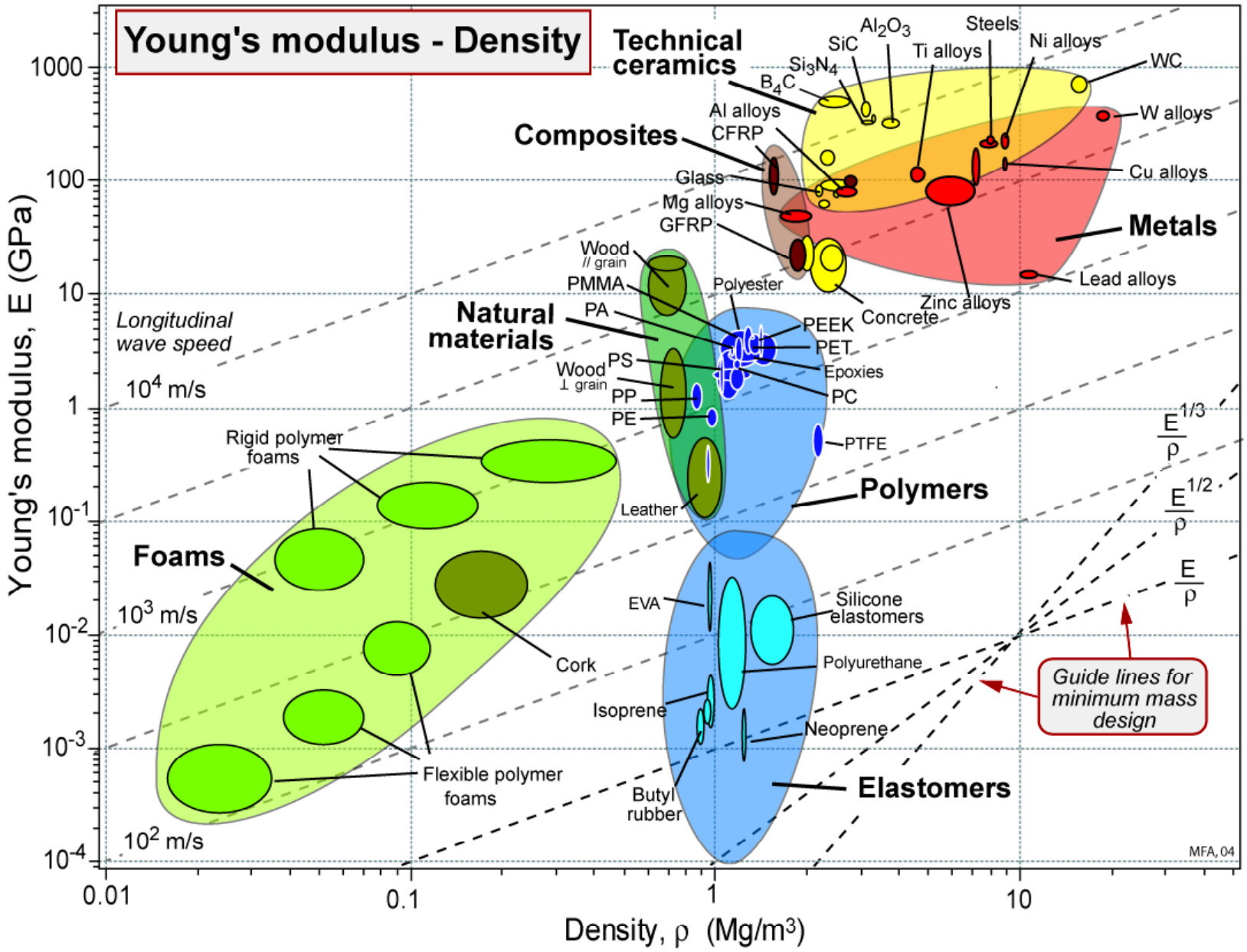
Young's modulus - Density
Technical ceramics
Composites
Metals
Natural materials
Polymers
Foams
Elastomers
Al2O3
Steels
SiC
Ni alloys
Ti alloys
Si3N4
WC
B4C
W alloys
Al alloys
CFRP
Cu alloys
Glass
Mg alloys
GFRP
Wood // grain
PMMA
Polyester
Lead alloys
Zinc alloys
Concrete
PA
PEEK
PET
Wood ⊥ grain
PS
Epoxies
PP
PC
PE
PTFE
Leather
Rigid polymer foams
Longitudinal wave speed
10^4 m/s
10^3 m/s
10^2 m/s
Cork
EVA
Silicone elastomers
Polyurethane
Isoprene
Neoprene
Butyl rubber
Flexible polymer foams
E^1/3 / ρ
E^1/2 / ρ
E / ρ
Guide lines for minimum mass design
MFA, 04
Young's modulus, E (GPa)
Density, ρ (Mg/m³)
1000
100
10
1
10^-1
10^-2
10^-3
10^-4
0.01
0.1
1
10