|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Time | Group | E0 (MPa) | E1 (MPa) | E2 (MPa) | τ1 (MPa) | τ2 (MPa) |
| 0M | PAA only | 37.80±9.14 | 5.11±1.07 | 3.88±1.37 | 5.35±0.74 | 115.72±6.54 |
| 15kGy e-beam | 20.71±6.11  (\*) | 1.88±0.92  (\*) | 2.37±1.46 | 6.57±1.48 | 99.50±14.22 |
| 15+15kGy e-beam | 21.08±4.55  (\*) | 1.84±0.95  (\*) | 1.68±0.92 | 6.16±1.12 | 133.42±22.86 |
| 34kGy e-beam | 18.18±3.73  (\*) | 1.92±0.66  (\*) | 2.73±1.94 | 6.12±1.31 | 128.46±39.43 |
| 15kGy gamma | 22.21±2.75  (\*) | 1.71±0.41  (\*) | 2.02±0.59 | 5.43±1.74 | 125.92±14.93 |
| 30kGy gamma | 25.00±3.84  (\*) | 2.82±1.36  (\*) | 3.16±1.52 | 5.96±1.00 | 115.41±10.84 |
| 55kGy gamma | 23.16±5.91  (\*) | 2.08±1.04  (\*) | 3.57±1.37 | 5.42±0.70 | 125.02±10.17 |
| 12M | PAA only | 39.29±11.53 | 5.72±2.66 | 3.69±2.18 | 5.03±0.97 | 123.26±20.82 |
| 15kGy e-beam | 23.73±2.64  (\*) | 1.86±0.38  (\*) | 2.02±0.69 | 5.93±0.55 | 131.31±20.14 |
| 15+ 15kGy e-beam | 24.54±5.21  (\*) | 2.04±1.24  (\*) | 2.12±1.05 | 5.21±0.55 | 123.81±30.20 |
| 34kGy e-beam | 20.08±3.41  (\*) | 1.34±0.87  (\*) | 3.65±2.08 | 5.20±2.20 | 137.75±17.80 |
| 15kGy gamma | 20.57±5.38  (\*) | 2.03±0.78  (\*) | 3.68±1.72 | 6.09±0.94 | 128.11±22.46 |
| 30kGy gamma | 26.59±2.23  (\*) | 2.27±2.22  (\*) | 2.24±1.76 | 5.17±4.06 | 121.39±80.60 |
| 55kGy gamma | 18.19±10.74  (\*) | 1.71±0.40  (\*) | 2.62±4.08 | 5.21±1.51 | 119.10±5.27 |