

Radian Convertible Car Seats:

Sunshine Kids' Radian child restraints were conceptualized and designed around a set of strict safety and performance parameters. Below is a brief summary explaining how those features are embodied and the resultant crash test performance.

FMVSS 213 Compliance and beyond:

Extensive crash testing was conducted for a matrix of both rear-facing and forward-facing child occupants. In each test, fully instrumented test dummies were used to accurately measure and record all biomechanical data throughout the entire crash test sequence. In every test configuration, as well as at their maximum rated capacities of 65 lbs and 80 lbs, Radian seats meet all the biomechanical values established by NHTSA, achieving a level of performance significantly superior to that required by US safety standard FMVSS 213.

Forward-Facing Excursion:

Radian65: In crash tests with a 65 lb test dummy (lap belt only and no top tether) resultant excursion values were more than 4" under the limit established in FMVSS 213 (and more than 6" under such limit when top tether was utilized). Crash tests with lower weight dummies resulted in significantly further decreased excursion values.

Radian80/XT: In crash tests with a 10 yr old, 80 lb test dummy (lap belt only and no top tether) resultant excursion values were approximately 3" under the limit established in FMVSS213.

Rear Facing Seat Back Angle:

Crash tests with rear-facing, 22 lb and 35 lb weighted test dummies resulted in installation angle deflections that peaked only in the low **50°** and low **60°** ranges, respectively. Radian achieves such incredible rear-facing stability due to the strength of its alloy steel frame, its very low center of gravity and close positioning of the occupant to the bite of the automotive seat.

Performance Enhancing Features:

SafeStop is a unique, energy-absorbing harness component that significantly reduces the forces affecting a child's head, neck and chest in an accident. This is especially important for younger, forward-facing children who have proportionally heavier heads, but less-developed neck strength. Radian is the only car seat in the world with an energy-absorbing harness system.

Radian positions the child occupant's center of gravity as low and as far back as possible on the vehicle seat for optimal restraint performance, especially in oblique-angled crashes – which is how most car accidents occur. In addition, this lower center of gravity significantly decreases the opportunity for occupant contact with the car's fixed interior structure.

A system of protective, energy-absorbing closed-cell foam lines the sidewalls and the seat back. The same foam is positioned underneath the child to help absorb the compressive forces on the spine that occur in forward-facing accidents.

5-point harness system with 3 buckle locations and 5 shoulder harness locations provide for maximum versatility and fit.