# R SIPs

## SIP No. 2068

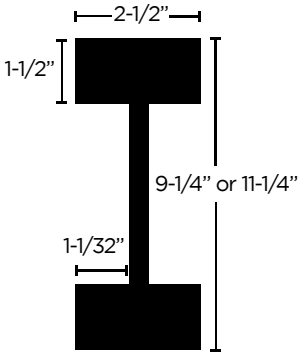
**Subject:** SIP Engineered Splines – Design Data

**Date:** May 2008 (Revised February 2012)

R-Control I-Beam splines are a companion product that provide additional strength and span capacity to R-Control SIPs assemblies. When the I-Beam splines are used with R-Control SIPs the composite panel/spline engineering data is detailed in the R-Control Load Design Charts.

However, on occasion it may be necessary to engineer a portion of a structure using the design capacities of the I-Beam. This bulletin provides the design capacities of the R-Control I-Beam for use in these instances.

**R-Control I-Beams**




| R-Control I-Beam Spline Reference Design Values[1] | | | | | | |
|---|---|---|---|---|---|---|
| **Joist Depth (in)** | **Joist Weight (plf)** | **EI ($10^6$ lbs-in$^2$)** | **K** | **Moment[2] $M_r$ (ft-lb)** | **Shear[2] $V_r$ (lb)** | **End Reaction[2] $R_{r,e}$ (lb)** |
| **9-1/4"** | 3.3 | 246 | 5.3 | 5050 | 1685 | 1375 |
| **11-1/4"** | 3.5 | 395 | 5.3 | 6545 | 2120 | 1375 |

[1] Please refer to ICC-ES ESR-2994 for general design information
[2] Moment and shear values and end reactions are for normal duration of load
[3] Maximum end reaction is based 1-3/4" (44 mm) bearing length
[4] The formula below shall be used to determine total deflection of uniformly loaded simple span.

$$\text{Defl.} = (22.5WL^4/EI) + (12WL^2/Kdx10^5)$$

Defl. = Deflection in inches.
W = Uniform Load (plf).
L = Clear Span (ft).
D = Out to Out depth of joist in inches.



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