



### Retrofit Cost Example and Floor Performance Rating

A 16' long and 20' wide floor built using a 2x3 flange 9 1/2" depth joists spaced 16" oc, with glued 5/8" OSB decking, without strapping/ceiling, passes all stiffness and strength Code requirements. Luxor's Floor Performance Rating (FPR) of this floor is 64 which is less than 100, Luxor's FPR recommendation based on the National Building Code of Canada's (NBCC) serviceability requirement. The NBCC serviceability requirement is based on research conducted during a 30 year period (Don Onysko and others) to define acceptable floor performance in technical terms.

To remedy this situation there are different retrofit options:

Double up on floor joists? Adding joists and the labour to install the joists, clear HVAC, wires and pipes, costs about \$600. The FPR increases from 64 to 88.

Install an extra layer of subfloor? Adding subfloor and the labour for installation and removal of floor coverings, costs about \$650. The FPR increases from 64 to 86.

Put in a beam, posts and footings? Adding a beam, posts and footings, engineering and the labour for installation, costs about \$850, but this solution ruins the space below the long room. The FPR increases from 64 to 150-200.

Add drywall to the ceiling? Adding drywall and the labour for installation, costs about \$1000. The FPR increases from 64 to 71.

Add one row of IBS! Adding IBS and the labour for installation, costs about \$300. FPR increases from 64 to 93.

Add twin rows of IBS! Adding IBS and the labour for installation, costs about \$450. FPR increases from 64 to 113.

Solutions	\$ Cost	FPR
Base case	N/A	64
Double up floor joists	600	88
Install extra layer of subfloor	650	86
Put in posts and beam	850	150-200
Add drywall to ceiling	1000	71
Add one row of <b>IBS</b>	300	93
Add twin rows of <b>IBS</b>	450	113

General Rule of Thumb: Use one row of IBS at mid-span for spans less than 20 feet. Use Twin rows of IBS positioned two feet apart at midspan for spans between 20 and 25 feet. Call Tim at 1-877-496-4355 for spans above 25 feet.

By using IBS, savings of up to 50% (in material and labour) can be achieved in most cases, resulting in equal or better floor performance.