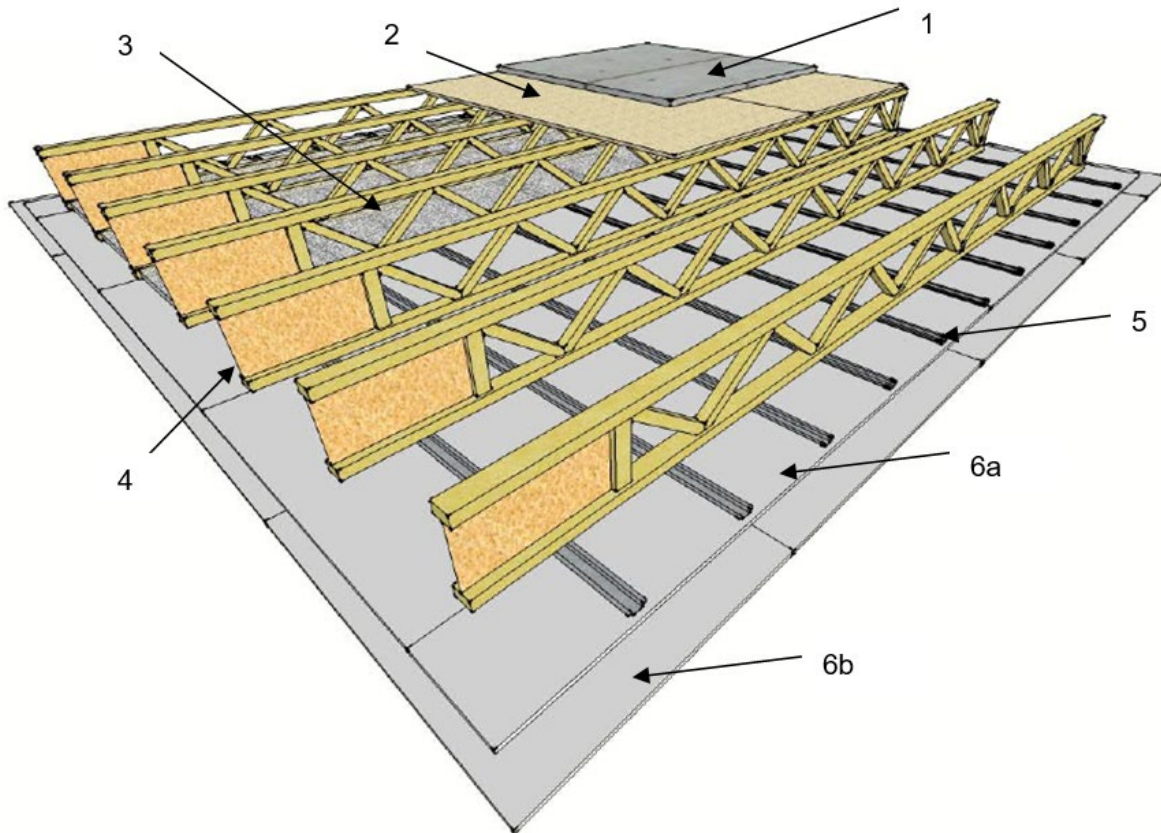


**Barrette Structural Inc.**  
**Design No. BS/SFWT 60-01**  
**Load Bearing Fire Resistance Rated Roof/Ceiling, Floor/Ceiling Assembly**  
**Open Joist TRIFORCE® Joist Series**  
**ASTM E119 and CAN/ULC S101**  
**Rating: 1 Hour**



- 1. FLOOR TOPPING (Optional):** Gypsum concrete, lightweight or normal concrete topping. When used as a roof assembly, materials for a built-up roof covering that are described in an assembly that provides a Class A, B, or C rating on combustible wood decks may be used.
- 2. FLOOR SHEATHING:** Min. 5/8 in. thick wood sheathing, designed and installed per Code requirements. When used as a roof assembly, min. 1/2 in. thick wood sheathing may be used, when designed and installed per Code requirements.
- 3. INSULATION (Optional):** When installed, insulation shall be installed above the joist flanges and supported by stay wires spaced 12 in. on center (oc).
- 4. CERTIFIED MANUFACTURER:** Barrette Structural Inc.  
**CERTIFIED MODEL:** Open Joist TRIFORCE® Joist Series



Min. 9-1/2 in. deep TRIFORCE® Joist Series spaced a max. 24 in. oc, installed in accordance with the Code. The max. spacing may be increased to 48 in. oc when the ceiling is applied to stripping spaced a max. of 24 in. oc. The stripping must be a nominal 2x4 construction-grade lumber attached to the joists bottom flange using two 10d nails.

**5. RESILIENT CHANNELS (Optional):** Min. 0.019 in. thick galvanized steel resilient channels attached perpendicular to the bottom flange of the joists with one 1-1/4 in. drywall screw. Channels spaced a max. of 16 in. oc. The max. channel spacing may be increased to 24 in. oc when joists are spaced a max. of 16 in. oc.

**6. GYPSUM WALLBOARD:** Two layers of min. 1/2 in. Type X gypsum wallboard attached with the long dimension perpendicular to the resilient channels (or joists) as follows:

6a WALLBOARD BASE LAYER – Base layer of wallboard attached to resilient channels (or joists) using 1-1/4 in. Type S drywall screws

at 12 in. oc. When resilient channels are installed, edge joints shall be centered on joists. End joints of wallboard staggered a min. of one channel (or joist) spacing.

6b WALLBOARD FACE LAYER – Face layer of wallboard attached to resilient channels (or joists) through base layer using 1-5/8 in. Type S drywall screws spaced 12 in. oc. Edge joints of wallboard face layer offset a distance equal to the joist spacing from those of base layer. End joints shall be offset from base layer joints by a min. of one channel (or joist) spacing and shall be centered in-between channel (or joist) spacings. Additionally, wallboard face layer attached to base layer with 1-1/2 in. Type G drywall screws spaced 8 in. oc, placed 1-1/2 in. from face layer end joints.

**7. FINISH SYSTEM (Not Shown):** Face layer joints covered with tape and coated with joint compound. Screw heads covered with joint compound.

**Acoustic Performance**

I-Joist Height	Insulation	Gypcrete	Carpet	Vinyl	STC	IIC
9-1/2 in. and 9-3/8 in.	Yes	No	No	No	42	38
	Yes	No	Yes	No	42	66
	Yes	No	No	Yes	42	44
	Yes	Yes	No	No	44	42
	Yes	Yes	Yes	No	44	70
	Yes	Yes	No	Yes	44	50
	No	No	No	No	41	35
	No	No	Yes	No	41	63
	No	No	No	Yes	41	41
	No	Yes	No	No	44	32
11-7/8 in.	No	Yes	Yes	No	44	60
	No	Yes	No	Yes	44	38
	Yes	No	No	No	46	39
	Yes	No	Yes	No	46	67
	Yes	No	No	Yes	46	45
	Yes	Yes	No	No	53	44
	Yes	Yes	Yes	No	53	72
	Yes	Yes	No	Yes	53	50
No	No	No	No	46	30	



I-Joist Height	Insulation	Gypcrete	Carpet	Vinyl	STC	IIC
11-7/8 in.	No	No	Yes	No	46	65
	No	No	No	Yes	46	43
	No	Yes	No	No	52	37
	No	Yes	Yes	No	52	67
	No	Yes	No	Yes	52	43
13 in.	Yes	No	No	No	47	40
	Yes	No	Yes	No	47	68
	Yes	No	No	Yes	47	46
	Yes	Yes	No	No	53	44
	Yes	Yes	Yes	No	53	72
	Yes	Yes	No	Yes	53	50
	No	No	No	No	46	30
	No	No	Yes	No	46	65
	No	No	No	Yes	46	43
	No	Yes	No	No	52	37
	No	Yes	Yes	No	52	67
	No	Yes	No	Yes	52	43
16 in.	Yes	No	No	No	48	41
	Yes	No	Yes	No	48	69
	Yes	No	No	Yes	48	47
	Yes	Yes	No	No	53	45
	Yes	Yes	Yes	No	53	73
	Yes	Yes	No	Yes	53	51
	No	No	No	No	47	31
	No	No	Yes	No	47	65
	No	No	No	Yes	47	43
	No	Yes	No	No	53	38
	No	Yes	Yes	No	53	68
	No	Yes	No	Yes	53	44

**Note:**

- Carpet and pad are 37 oz., 7/8 in. carpet with woven polypropylene backing and 40 oz. felt pad
- Vinyl flooring: Armstrong Starstep
- 3/4 in. Gypcrete 2000
- Insulation: 5-1/2 in. thick cellulose material (1.6 pcf density)