



DSA Structural Amendments under review are highlighted in GRAY

Template 22-19

2001 CBC - Chapter 22A
STEEL

Section - 2231A - TESTING AND INSPECTION GENERAL
PROVISIONS

Subsection(s) - 2231A.7

1 **2231A.7 Open-web Steel Joists and Joist Girders. Design Ver-**
2 **ification Tests.** *If the design is such that it is not susceptible to ra-*
3 *tional analysis, one load test shall be made for every 50 joists or*
4 *fractional part thereof of every type of welded joist.*

5
6 **EXCEPTION:** *This requirement may be waived by the enforcement*
7 *agency when a particular joist design has been previously verified.*

8 *Verification of joist design and performance can be accomplished*
9 *if a quality assurance control program and testing procedures accept-*
10 *able to the enforcement agency are carried out by the manufacturer for*
11 *each standard production joist series on a continuing basis.*

12
13 *The method of making load tests shall be subject to the approval*
14 *of the enforcement agency. Load tests shall be made either by the*
15 *application of a symmetrically distributed load upon two or more*
16 *joists braced as required by the approved plans or by use of con-*
17 *centrated loads applied by means of calibrated testing apparatus*
18 *upon one or more joists braced or laterally supported as required*
19 *by the approved plans. The load shall be arranged such that it does*
20 *not provide arching, composite action or load redistribution. The*
21 *test joists shall be supported as called for on the approved build-*
22 *ing plans.*

23
24 *Testing procedures shall consist of two parts as follows:*

25
26 **NOTE:** *A preload, not to exceed 50 percent of the design dead plus*
27 *live load, shall be applied and removed before initial test load is*
28 *applied. Each joist shall be clearly and permanently marked for identi-*
29 *fication. The joists tested under Part I may be used for testing under*
30 *Part II, but joists tested under Part II shall not be used in the structure.*

31
32 *Part I. The joist shall sustain 1.0 times the design dead plus*
33 *live load with the center span deflection not exceeding that speci-*

34 *fied in Table 16A-D. The test load shall be increased to 1.4 times*
35 *the design dead plus live load and remain for 30 minutes. There*
36 *shall be no evidence of creep in deflection at the end of the test pe-*
37 *riod. Permanent set or deflection of the joist after the test loads*
38 *have been removed shall not exceed 10 percent of the deflection*
39 *recorded for the loading of 1.4 times the design dead plus live*
40 *load.*

41
42 *Part II. The joist shall sustain a test load of 1.67 times the de-*
43 *sign dead plus live load for 30 minutes with no evidence of immi-*
44 *nent failure of welds, chords or web members.*

45
46 *Where ponding is possible, the joists shall comply with Division*
47 *III K2 and the live load deflection test requirement may be waived.*