Decks for 2020 Residential Codes of NYS

Decks for 2020 code

Deck construction shall fully comply with Section R507 of the 2020 Residential Code of NYS and are subject to field inspection.

R507.1 Decks.
Wood-framed decks shall be in accordance with this section. For decks using materials and not prescribed in this section, refer to section R301

Deck Checklist

- Shall be positively anchored to structure
- If connection cannot be verified deck must be self-supporting (fully supported with posts)
- Designed for vertical and lateral loads
- Cantilevers must be designed for uplift forces
- Ledger locks patterns should be staggered to eliminate structural damage and "roll"
- An acceptable method (flashing) must be installed to prevent rot and decay of ledger boards and attachment points
- All fasteners and flashing materials must be resistant to rust
- Hangers and fasteners shall be rated for use with the type of pressure treating chemicals being used. Follow manufacturers recommendations regarding the type of hardware required.
- Footings shall be a least 48 inches below grade and capable of supporting the required loads
- All applicable joist hangers, post and girder connections are installed as required and comply with approved plans
- Stairs are required to have minimum tread depth of 9 inches and a maximum riser height of 8 ¼ inches
- Guards are required on decks exceeding 30 inches above grade and shall not be less than 36 inches in height. Required guards shall not allow passage of a 4 inch sphere or more in diameter.
- Handrails shall be installed on all open sides where four or more risers exist and shall be between 34 and 38 inches.

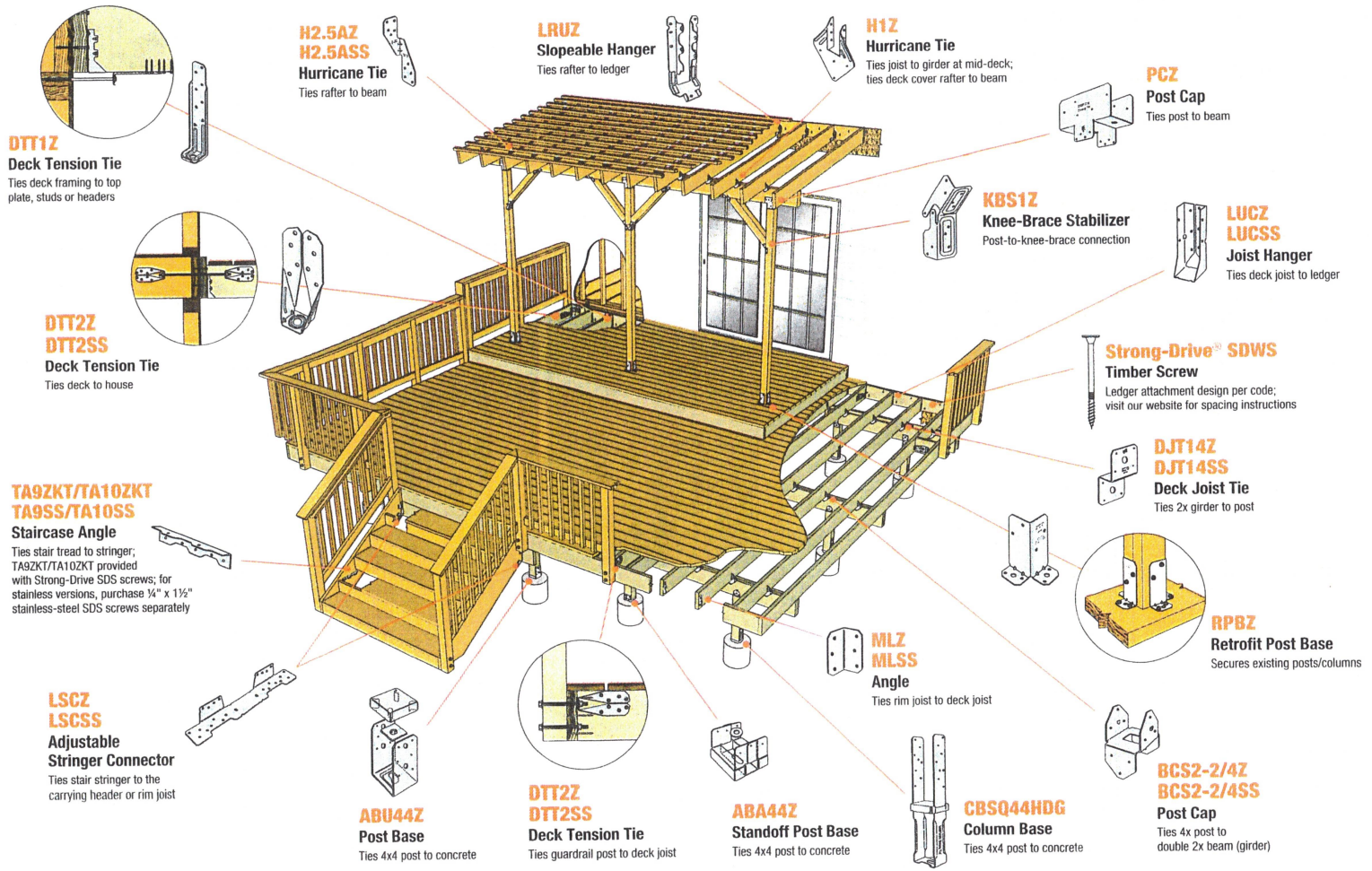
Note: The items listed on this sheet are common deficiencies noted during deck inspections and are not intended to list all code and structural requirements. For all code requirements see the 2020 Residential Code of NYS and your design professional.

FOR EASIER, STRONGER, SAFER CONSTRUCTION

DO YOUR DECKS MEET CODE?

SIMPSON Strong-Tie®

A Complete Connector System for Building Safer, Code-Compliant Decks



DTT1Z
Deck Tension Tie
Ties deck framing to top plate, studs or headers

H2.5AZ
H2.5ASS
Hurricane Tie
Ties rafter to beam

LRUZ
Slopeable Hanger
Ties rafter to ledger

H1Z
Hurricane Tie
Ties joist to girder at mid-deck; ties deck cover rafter to beam

PCZ
Post Cap
Ties post to beam

KBS1Z
Knee-Brace Stabilizer
Post-to-knee-brace connection

LUCZ
LUCSS
Joist Hanger
Ties deck joist to ledger

DTT2Z
DTT2SS
Deck Tension Tie
Ties deck to house

Strong-Drive® SDWS
Timber Screw
Ledger attachment design per code; visit our website for spacing instructions

DJT14Z
DJT14SS
Deck Joist Tie
Ties 2x girder to post

TA9ZKT/TA10ZKT
TA9SS/TA10SS
Staircase Angle
Ties stair tread to stringer; TA9ZKT/TA10ZKT provided with Strong-Drive SDS screws; for stainless versions, purchase ¼" x 1½" stainless-steel SDS screws separately

RPBZ
Retrofit Post Base
Secures existing posts/columns

MLZ
MLSS
Angle
Ties rim joist to deck joist

LSCZ
LSCSS
Adjustable Stringer Connector
Ties stair stringer to the carrying header or rim joist

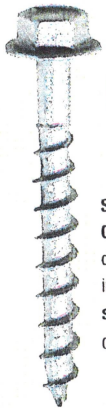
ABU44Z
Post Base
Ties 4x4 post to concrete

DTT2Z
DTT2SS
Deck Tension Tie
Ties guardrail post to deck joist

ABA44Z
Standoff Post Base
Ties 4x4 post to concrete

CBSQ44HDG
Column Base
Ties 4x4 post to concrete

BCS2-2/4Z
BCS2-2/4SS
Post Cap
Ties 4x post to double 2x beam (girder)



DESIGNED FOR CONNECTORS

Strong-Drive® SD Connector screws are designed to replace nails in certain products. Visit **strongtie.com/sd** for complete information.

See the Simpson Strong-Tie® *Deck Connection and Fastening Guide* for specific recommendations.

(800) 999-5099
strongtie.com

Choose the Right Level of Corrosion Protection

Visit strongtie.com/info for critical information.

ZMAX® G185

HOT DIP HDG GALVANIZED®

316 Stainless Steel

NOTE: *Illustration shows all available deck products. Actual products selected will depend upon application or construction method used for a particular deck. Check local building codes before you begin a project.*

Use ZMAX® coated or stainless-steel connectors in outdoor environments and to protect against corrosion from preservative-treated wood. ***Use ONLY fasteners with a hot-dip galvanized (HDG) or double-barrier coating with ZMAX and post-HDG connectors. Use ONLY stainless-steel fasteners with stainless-steel connectors.*** Visit **strongtie.com/info** for critical information.

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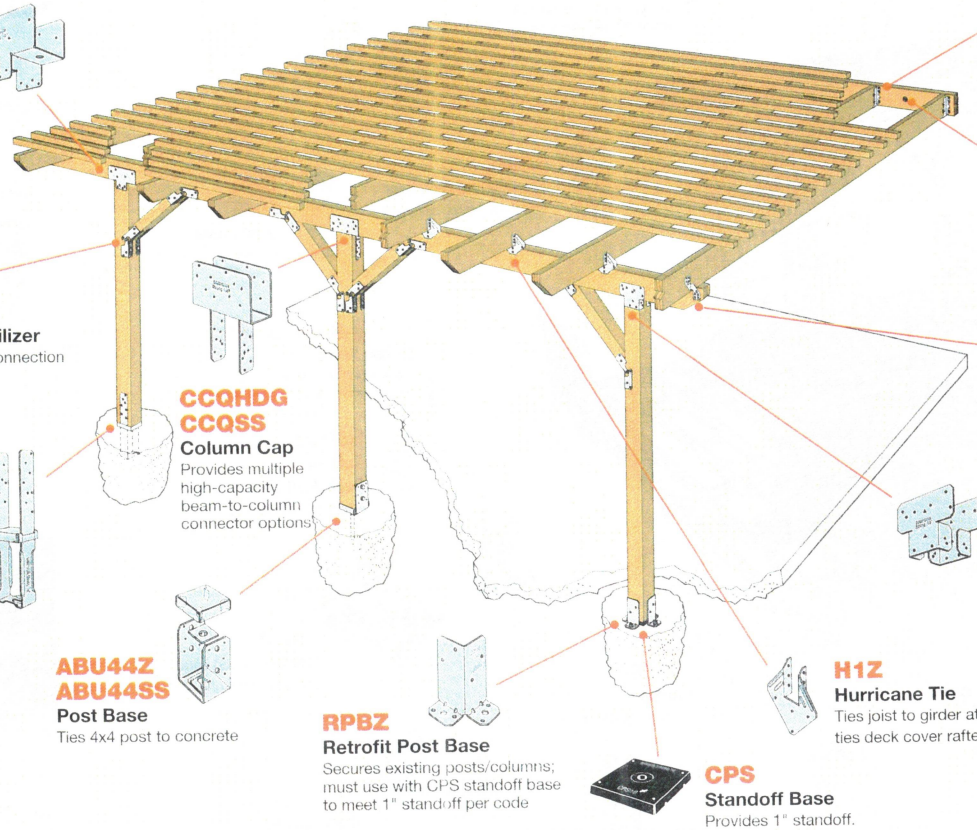
FOR EASIER, STRONGER, SAFER CONSTRUCTION

PATIO COVER SYSTEM

A Complete Connector System for Patio Cover Construction



PCZ/ EPCZ
Post Cap
Ties posts to beams; accommodates several sizes

KBS1Z
Knee-Brace Stabilizer
Post-to-knee-brace connection

CCQHDG CCQSS
Column Cap
Provides multiple high-capacity beam-to-column connector options

CBSQ44HDG
Column Base
Ties 4x4 post to concrete

ABU44Z ABU44SS
Post Base
Ties 4x4 post to concrete

RPBZ
Retrofit Post Base
Secures existing posts/columns; must use with CPS standoff base to meet 1" standoff per code

CPS
Standoff Base
Provides 1" standoff.

H1Z
Hurricane Tie
Ties joist to girder at mid-deck; ties deck cover rafter to beam

AC4Z AC4SS
Post Cap
Ties 4x post to 4x beam (girder)

H2.5AZ H2.5ASS
Hurricane Tie
Ties joist to girder at mid-deck; ties deck cover rafter to beam

Strong-Drive® SDWS
Timber Screw
Ledger attachment design per code; visit our website for spacing instructions

LUS28Z LUS28SS
Light Double-Shear Joist Hanger
Ties girder to girder

NOTE: *Illustration shows all available patio-cover products. Actual products selected will depend upon application or construction method used for a particular patio cover. Check local building codes before you begin a project.*

Choose the Right Level of Corrosion Protection

Visit strongtie.com/info for critical information.

ZMAX G185

HOT DIP HDG GALVANIZED®

316 Stainless Steel

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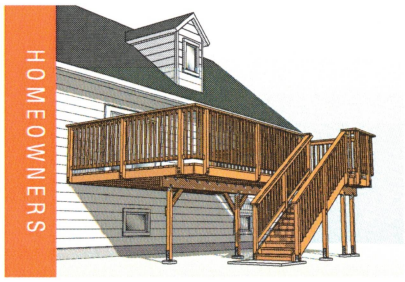


SIMPSON Strong-Tie®

5 Steps to a Safer and Stronger Deck

Decks

What you need to know to make your deck strong and safe.

Most experts agree that the average life expectancy of a wood deck is 10 to 15 years. There are millions of decks in the U.S. that are beyond their useful life and may be unsafe. Since 2003, deck collapses have caused thousands of reported injuries* and several deaths.

As you evaluate the safety and construction of your new or existing deck, knowing these simple steps will help to ensure your deck is structurally sound and properly maintained. We've included a list of warning signs, so you'll know what to keep an eye out for on your deck.

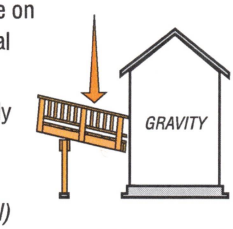
1. Check Out Your Deck

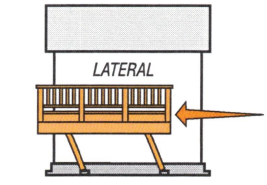
The first step in making your deck safe is knowing that it may not be. Decks are potentially the most dangerous part of the house, according to some experts. Factors, such as improper construction, exposure to the elements and lack of maintenance can make your deck unsafe. It's important to look for warning signs *(see page 2)*. If you are unsure about the safety of your deck, consult with a professional such as a structural engineer or contractor.

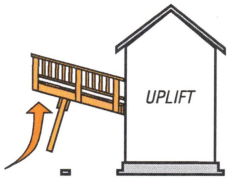
2. Carry the Weight

For most homeowners, the deck is a popular gathering place for friends and family. Like a house, a deck must be designed to support the weight of people and objects placed on it as well as the forces of Mother Nature like wind, snow and earthquakes. Knowing how weight and other forces can affect the safety of your deck is important. There are three types of forces that put pressure on your deck, causing strain to the critical connections that keep it together:

- Gravity – downward pressure typically caused from people standing on the deck or snow and ice.
- Lateral – a back and forth *(horizontal)* motion caused by people walking on the deck and/or leaning on a railing. Wind and earthquakes also can create lateral movement.
- Uplift – wind flows under the deck creating a lifting effect. People standing on the overhang of the deck also creates upward pressure on the connection that attaches the deck to the adjacent support structure, which is typically your home.







3. Create a Path

A continuous load path, that is. A continuous load path is a method of construction that uses metal connectors to create a series of solid connections within the structure of the deck. This path transfers the load or weight of the deck through its frame and into the ground and adjacent support structure *(typically your home)*. If your deck is built with a continuous load path, it will be better equipped to resist the forces that can weaken your deck.

4. Combat Corrosion

Decks and the metal hardware that keeps them connected and safe are exposed to the elements every day. Over time, metal connectors, screws and nails can corrode and weaken the structure of your deck, especially if the right product is not used. If you live in an area prone to moisture, such as along the coast or near bodies of water, the risk of corrosion is much higher. Chemicals in pressure-treated woods and other corrosive elements also can damage your deck. Using connectors, screws and nails that are made from stainless steel is the best way to combat corrosion. When choosing connectors, take into account where you live and how weather and the environment may affect your deck. For critical information about corrosion and connector selection, visit ***www.strongtie.com/corrosion***.

5. Maintain a Safe Deck

Just like other parts of your home, regular maintenance and inspection are required. To prolong the life of your deck, you need to check for things like loose boards or protruding nails. You also should keep your deck clean from debris and depending on the type of deck boards used, keep them sealed to protect against water and sun damage.

**Based on data collected by the U.S. Consumer Product Safety Commission's National Electronic Injury Surveillance System.*

HOMEOWNERS

SIMPSON Strong-Tie®

5 Steps to a Safer and Stronger Deck

Decks

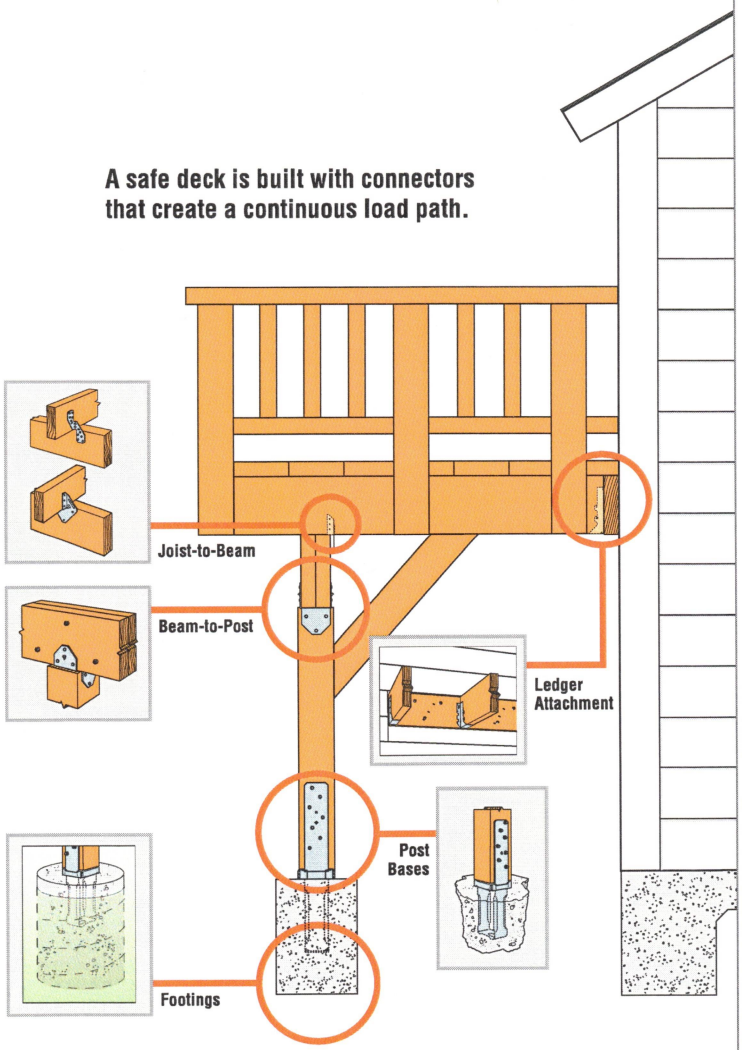
What you need to know to make your deck strong and safe.

Is Your Deck Unsafe? Look for the 5 Warning Signs

If you see any of these warning signs you should consider repairing, retrofitting or rebuilding your deck.

1. **Missing Connections:** A deck should be built using a series of wood members, nails, screws and metal connectors to create a continuous load path *(see image on right)*. Look at how your deck is built—if all you see is nails, your deck may be unsafe.
2. **Loose Connections:** Depending on how the deck was built, vital connections may have degraded over time due to various factors. Issues such as wobbly railings, loose stairs and ledgers that appear to be pulling away from the home are all causes for concern.
3. **Corrosion of Connectors and Fasteners:** Metal connectors, nails and screws can corrode over time. Look for red rust and other signs of corrosion that can weaken the structure of your deck.
4. **Rot:** Wood can rot and degrade over time with exposure to the elements. Wood members within the deck frame that have rotted may no longer be able to perform the function for which they were installed, making your deck unstable.
5. **Cracks:** As wood ages, it is common for cracks to develop. Large cracks or excessive cracking overall can weaken your deck.

A safe deck is built with connectors that create a continuous load path.



Repairing or Retrofitting an Existing Deck

If you've determined your deck is unsafe, you'll need to either repair or retrofit it or in some cases, rebuild it altogether. If rebuilding your deck is not feasible, there are improvements you can do on your own to strengthen your deck. However, some cases may require the professional services of an engineer and contractor. Remember, when hiring a professional, be sure they are licensed and have a good reputation. Once the work is done, don't forget about your deck—it needs to be checked and inspected on a regular basis.

The Simpson Strong-Tie® ***Deck Framing Connection Guide*** can help you through the process of making your deck safe, secure and code compliant. You can download the guide or request a copy at ***www.strongtie.com/safedeck***.