

Ladder Selection

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Safety Tips from the WorkSafe People

First Step on the Ladder is Selection

There are over 15 different styles of ladders, ranging from home use to commercial, of which six will be reviewed here.

Stepstools: Lightweight, compact, and sturdy, designed for home and office use. The top of the ladder may be used as a step unlike regular stepladders.

Single Stepladder: Designed for low or medium heights. The top is not designed to be stood on. Highest standing level on a stepladder is two steps from the top.

Platform Ladder: Provides a large standing surface for more comfort when performing work at fixed heights.

Single Ladder: This is a one section non-extending ladder, designed for repeated tasks located at the mid-range heights.

Extension Ladder: The most popular of the longer ladders. They are designed to handle a very wide range of tasks at varying heights.

Sectional Ladder: These ladders provide a wide range of application and were designed for the electrical, telephone, and cable utilities workers.

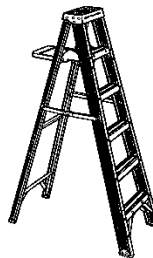
Stepstool



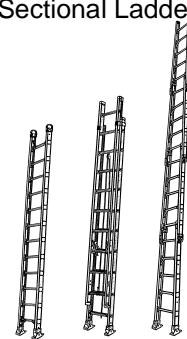
Platform Ladder



Stepladder



Single, Extension, and Sectional Ladder



Safety Tips from the WorkSafe People

Second Step on the Ladder is Size

Selecting the correct ladder size or length will reduce the number of injuries and property damage. Using a ladder too long or too short just because it was handy has resulted in numerous accidents.

Extension Ladders:

- 7 to 10 feet longer than the highest support or contact point.
- Highest stand point is four rungs down from the top.
- Never stand on the extension ladder above the support points or roof line.

Extension Ladder Size Selection Chart

Maximum Working Ladder Length	Highest Standing Level (Approx.)
13'	9' 2"
17'	13' 1"
21'	16' 11"
25'	20' 10"
29'	24' 8"
32'	27' 7"
35'	30' 6"

Safety Tips from the WorkSafe People

Stepladder:

- Highest safe standing level is two steps down from the top.
- Maximum safe reaching height is approximately 4 feet higher than the ladder height.

Stepladder Size Selection Chart

Stepladder Size	Highest Standing Level (Approx.)**
3'	11"
4'	1' 11"
5'	2' 10"
6'	3' 10"
7'	4' 9"
8'	5' 8"
10'	7' 7"
12'	9' 6"
14'	11' 5"
16'	13' 4"

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Third Step on the Ladder is Duty Rating

Duty Rating: The maximum safe load capacity of a ladder is the duty rating. The weight of a person + the weight of any tools and materials that are carried onto the ladder must be less than the Duty Rating.

Duty Rating Chart

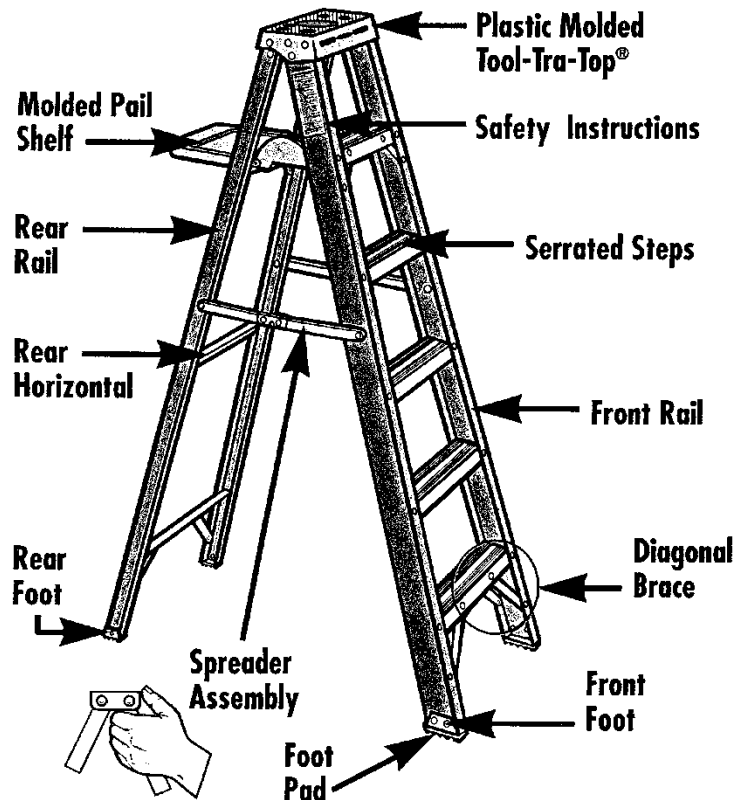
Grade	Household	Commercial	Industrial	Heavy Duty	Extra- Heavy
Duty Rating	200 Lbs.	225 Lbs.	250 Lbs.	300 Lbs.	375 Lbs.
Type	III	II	I	IA	IAA

Safety Tips from the WorkSafe People

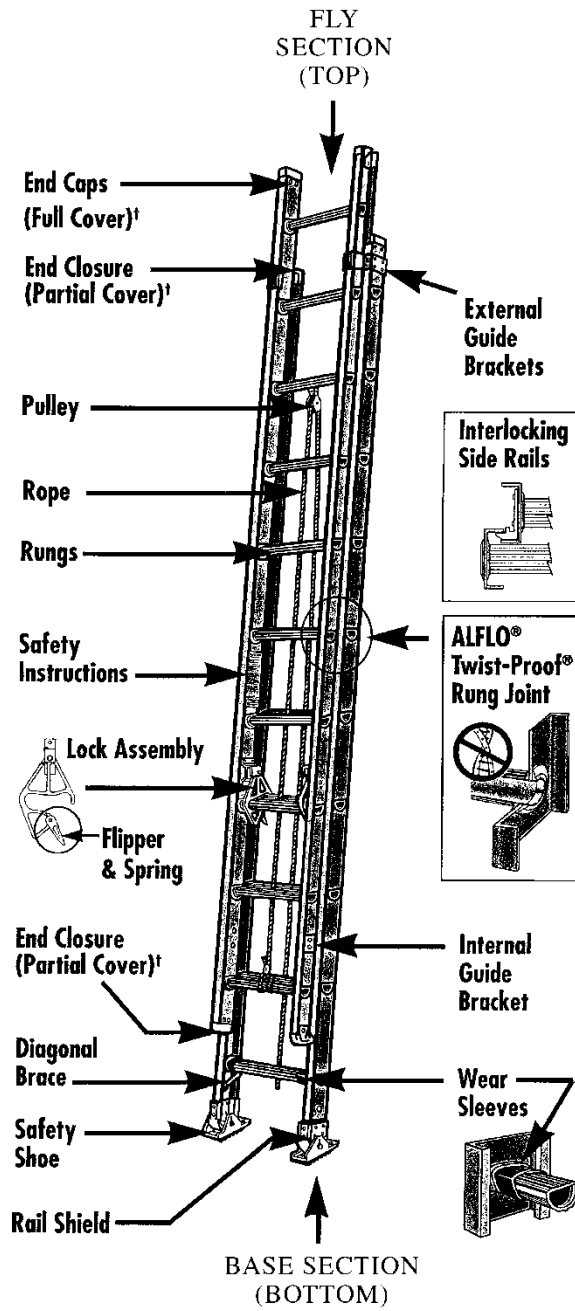
Fourth Step on the Ladder is the Material

- **Material:** Ladders are available in fiberglass, aluminum, and wood.
- **Fiberglass:** Non-conductive, rugged, and durable; best choice when working around or near electrical and overhead power lines.
- **Aluminum:** High strength and lightweight, corrosion and rust resistant, withstands most working environments. Not the material of choice when working around or near electricity.
- **Wood:** Non-conductive when kept clean and dry. Twice as heavy as comparable aluminum or fiberglass.

Anatomy of a Ladder



Stepladders



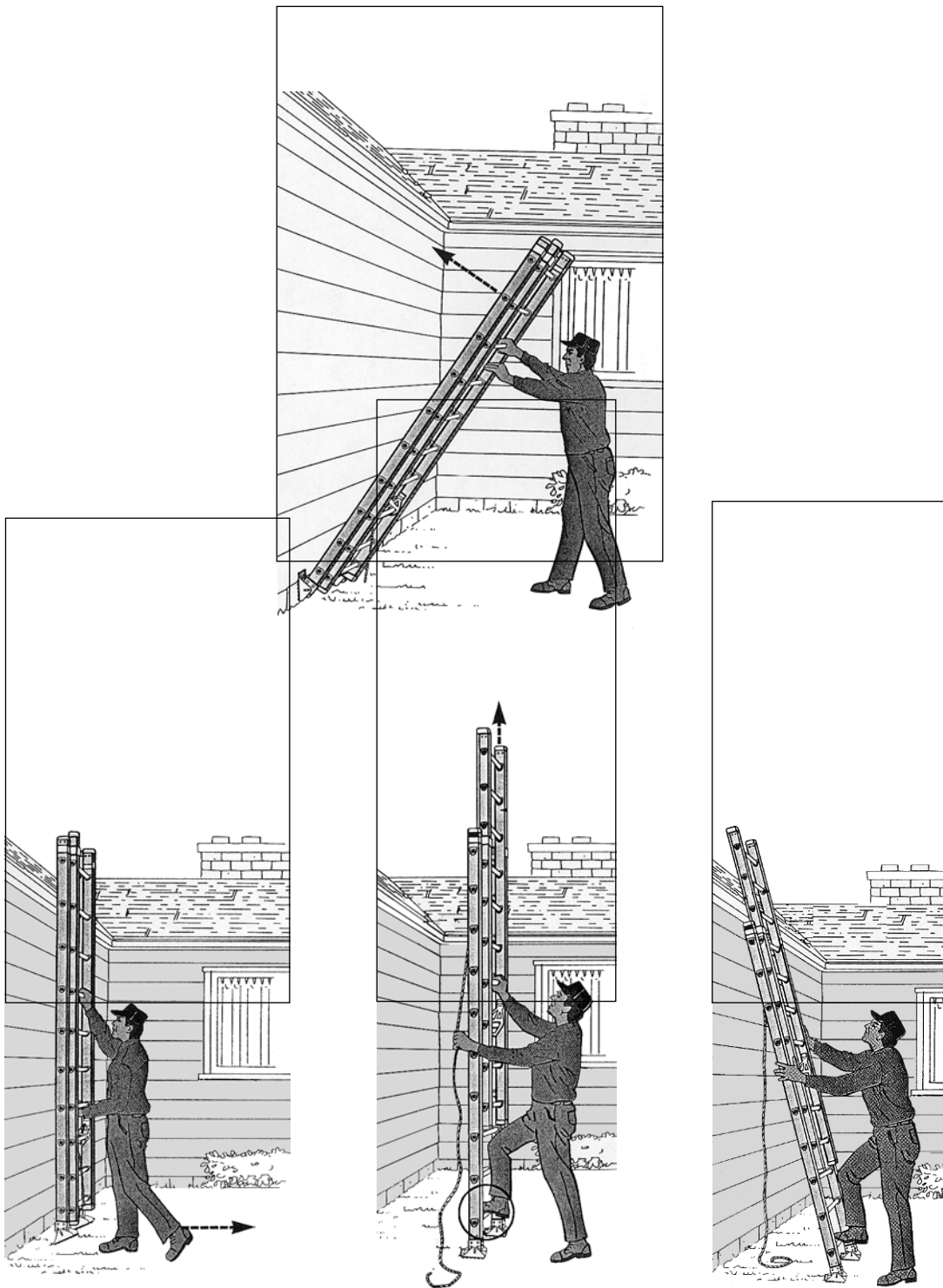
Extension Ladders

Safety Tips from the WorkSafe People

Climbing Safety

1. Inspect the ladder before using.
2. Secure the work area from cross traffic.
3. Use fiberglass ladders if the possibility exists there will be electric or overhead lines within 10 feet of the work site.
4. **Set up the stepladder making sure:**
 - Open fully and both spreaders are firmly locked in place.
 - Position feet on firm, solid ground.
5. **Set up the extension ladder making sure:**
 - Both top rails are fully supported, with the minimum of 12 inches on both sides.
 - Position the ladder on a $75\frac{1}{2}^\circ$ angle or by the rule: 1 foot away from the support for every 4 feet of ladder.
 - Tie-down the bottom of the ladder if outward slipping could occur.
 - Feet are on firm, solid ground.
 - Ladder reaching a roof or platform must extend 3 feet beyond the edge or support point.
 - Raise the ladder only while standing on the ground, by placing one foot on the bottom rung of the base section to secure the ladder. Use the rope pulley to raise the ladder. That way you can see if the locks are in place.
 - Use both extension locks over the rungs.
 - Watch for overhead obstructions.
6. Knock excess dirt, mud, or oil off the bottom of your shoes.
7. Climb facing the ladder, with the center of your body between the rails while you maintain a 3 point connection, two hands and one foot, or two feet and one hand.
8. Keep your body centered on the ladder while working. Follow the belt buckle rule.
 - Position the ladder so you do not have to reach a distance longer than one arm's length.
9. Follow the maximum standing levels shown previously.
10. In windy, rainy weather have another person hold the ladder in addition to fully securing the ladder.
11. An erected ladder should never be left unattended.
12. Remove any slippery material (dirt, mud, oil) after use.
13. When transporting a ladder, carry it horizontally rather than vertically.
 - A single person carrying a ladder shall use one hand to grasp the rail of the ladder at its midpoint, keeping the front of the ladder slightly higher than the back.
 - If the ladder is too heavy or too long for one person, get help and position a person at either end.

Safety Tips from the WorkSafe People



Ladder Inspection Checklist

Conduct a ladder inspection before each use. Remove from service any ladder that shows signs of damage and/or corrosion.

1. Label weight and capacity is correct for application?
2. Are there any signs of cracks on the side rails, loose rungs, rails, or brace damage, connections between the rungs and the rails?
3. Any heat or corrosion damage?
4. If a wooden ladder is used, look for moisture that may conduct electricity.
5. If a metal ladder is used, look for burrs and sharp edges.
6. If a fiberglass ladder is used, look for signs of blooming (fiberglass deterioration).
7. Check the pulleys and ropes for signs of use.

Any ladder found to have any defects, such as those listed in items 2 through 6, should be removed from service and tagged "Do Not Use."