Trade Safety Series:
Using Power Tools Safely - Angle grinders

About the Video:
Master builder Todd Newman shares his 20+ years experience as a very safe builder, showing and explaining the best practice when it comes to the safe use of power tools. In this program we examine the most common injuries from angle grinders and the best ways to eliminate risk.

Year of Production: 2014
Total length of video: 5.24

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Timeline

00.00 Introduction and Injuries

01.17 Safety gear; ear protection, glasses, steel capped boot

01.32 Clothing; heavy cotton, long sleeve, full leg, boots.

01.48 Environmental conditions; fire ban days

02.15 Built-in safety systems; safety triggers, guards, handles.

02.43 Best process: checking before use. Unplugged, check blade, check handle, stand away when plugging in.

03.00 What to look for; attachments, guards, dimensions correct, handle fitted.

03.20 Set up; material to fall away. Body away from grinder. Scaffolding

03.40 Starting; Blade up to speed, let the blade cut.

04.19 Stopping; let the blade stop, disconnect.

04.32 Environment; open air, check where sparks will go.
Learning Activities

For consideration prior to viewing:

These activities can be undertaken with participants working individually or in one or more small groups. They are designed so responses can be made in different ways, including brainstorming, discussion, written responses, role-plays etc.

1. Pair students up. Ask them to brainstorm and list all the dangers students can think of posed by an angle grinder in a construction site. Compile the list as a class. What did they identify? What did they not identify? Discuss.

2. Ask students to research all the possible injuries angle grinders. Discuss instances where these injuries are most likely to occur.

3. As a hypothetical exercise, ask students to imagine that they are in charge of safety at a construction site. Ask students to design a safety campaign to minimize injuries from angle grinders. Think visual (e.g. posters), verbal (e.g. toolbox meetings) and administrative (process regulation).
Questions about the video:

1. List the three main injuries that can occur with angle grinders.
   1. __________________________________________________________
   2. __________________________________________________________
   3. __________________________________________________________

2. What are the three essential pieces of safety equipment recommended for angle grinders?
   1. __________________________________________________________
   2. __________________________________________________________
   3. __________________________________________________________

3. Make sure the clothes are not ____________.

4. Never use angle grinders on ____________ ____________ ____________ days.

5. What are the three built-in safety features of angle grinders?
   1. __________________________________________________________
   2. __________________________________________________________
   3. __________________________________________________________

6. What should you look for when checking an angle grinder?
   1. __________________________________________________________
   2. __________________________________________________________
   3. __________________________________________________________
   4. __________________________________________________________
7. Make sure that the material you are cutting can __________ ____________.

8. Before putting the grinder down, make sure that the blade is completely __________.
Questions about the video: Answer key.

1. List the three main injuries that can occur with angle grinders.
   A: 1) Lacerations 2) Eye injury 3) Hearing damage

2. What are the three essential pieces of safety equipment recommended for angle grinders?
   A: 1) Ear protection 2) Safety glasses 3) Steel-capped boots

3. Make sure the clothes are not ______________.
   A. Flammable.

4. Never use angle grinders on ___________ _______ ______ days.
   A: Total Fire Ban.

5. What are the three built-in safety features of angle grinders?
   A: 1) Safety trigger 2) Guard 3) Auxiliary handle

6. What should you look for when checking an angle grinder?
   A: 1) Worn, damaged attachments 2) Guards securely fitted 3) Dimensions of attachments are within angle grinder ratings 4) Auxiliary handle is fitted

7. Make sure that the material you are cutting can __________ ____________.
   A: Fall away

8. Before putting the grinder down, make sure that the blade is completely ____________.
   A: Stopped.
Follow-up activities

These activities can be undertaken with participants working individually or in one or more small groups. They are designed so responses can be made in different ways, including brainstorming, discussion, written responses, role-plays etc.

1. Research the best first aid or emergency process for a laceration from an angle grinder.

2. Research how you can be sure that you will know when it’s a Total Fire Ban day.

3. Research the different attachments and blades available, and how they match up with the right angle grinder.
**Suitable resources**

Equipment and machinery resources (range of material available from this page)


Jackhammers:


Building and Construction Industry Guidelines for Electrical Practices:


Safety handbook for the building and construction industry:


Hierarchy of hazard controls: