iPhone 3G

iPhone 3GS

Apple Recycler Guide

April 2023

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Contents

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About This Guide

Apple Recycler Guides provide guidance for electronics recyclers on how to disassemble products to maximize recovery of resources. The guides provide step-by-step disassembly instructions and information on the material composition to help recyclers direct fractions to the appropriate material recycler.

To conserve important resources, we work to reduce the materials we use and aim to one day source only recycled or renewable materials in our products. A key path to reaching that goal is resource recovery from end-of-life electronics.

Disassembly procedures are intended to be performed only by trained electronics recycling professionals. The recycler is responsible for independently evaluating and ensuring compliance with all applicable environmental, health, and safety laws related to the work. These include but are not limited to laws relating to the management, handling, shipping, and disposal of the outputs of this work as waste and laws in place to ensure the health and safety of all employees who support this work.

For questions or feedback about this guide, email contactesci@apple.com.

Note: This guide may show images from other similar models, but the procedures are the same.

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Identification

You can find the model number on the back of the iPhone.

Model numbers:
A1241, A1303, A1324, A1325

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Directive 2012/19/EU Annex VII Components

Directive 2012/19/EU Annex VII requirements apply to the following substances and components.

Substance/Component	Apple Part Name	Removal Instructions
Printed circuit board if the surface is greater than 10 square centimeters	Main logic board	Follow steps 1–14
External electric cables	Power adapter, charge cable	Follow step 1
Battery	Lithium-ion polymer battery	Follow steps 1–15
Cover glass and liquid crystal display (LCD) cell if the surface is greater than 100 square centimeters	LCD cell	Follow steps 1–5
No further substances or components as listed in Annex VII		

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Safety Considerations

The recycler is responsible for independently evaluating all activities undertaken by its employees to perform or support the work and ensuring compliance with all applicable health and safety laws related to the work. These include but are not limited to laws relating to the health and safety of all employees who perform or support this work. The recycler is also responsible for evaluating the workspace and ensuring that the area in which the work is to be undertaken is designed using ergonomic best practices and meets all ergonomic requirements to ensure the protection of its employees.

Personal Protective Equipment

Personal protective equipment should be worn during the entire recycling process.


Wear hand protection


Wear protective clothing


Wear eye protection


Wear foot protection

Battery Safety

This product uses a lithium-ion polymer battery. Before beginning any disassembly work, ensure a safe working procedure for handling lithium-ion batteries has been established, which could include discharging the batteries so that they can be more safely managed. The following considerations may also be included:

- Remove anything from your person that could conduct energy, such as jewelry and watches, to avoid electric shock to yourself or the logic board.
- To avoid the potential for thermal runaway and the release of potentially noxious fumes, don’t puncture, strike, or crush lithium-ion polymer batteries or devices powered by them.
- Don’t throw, drop, or bend the battery.
- Don’t expose the battery to excessive heat or sunlight.
- Don't use tools that are sharp or conduct electricity.
- Keep your workspace clear of foreign objects and sharp materials.
- Dispose of batteries according to local environmental laws and guidelines.

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Workspace safety guidelines

- Use heat-resistant gloves and safety glasses.
- Keep a sand dispenser within arm's reach (2 feet or 0.6 m) on one side of the workstation, not above the workstation. The dispenser should be a wide-mouthed, quick-pour metal container with a flip-top lid or tray that contains 8–10 cups (1.9–2.4 L) of clean, dry, untreated sand.
- Keep the battery at least 2 feet (0.6 m) from paper and other combustible materials.
- Work in an area with adequate ventilation.

Handling a thermal runaway

If you notice any of the following signs, a thermal runaway is likely underway, and you should act immediately:

- The lithium-ion polymer battery or a device containing one begins to smoke or emit sparks or soot.
- The battery pouch suddenly and quickly puffs out.
- You hear hissing or popping sounds.

Don't use water or an ABC/CO_2 fire extinguisher on a thermal runaway battery or a device containing one. Water and ABC/CO_2 fire extinguishers will not stop the reaction.

Do smother the battery or device immediately with plenty of clean, dry sand, dumped all at once. Timing is critical; the faster you pour all the sand, the faster the thermal runaway will stop.

Do leave the room for 30 minutes if the thermal runaway causes any irritation.

Do wait 30 minutes before touching the battery. Wear heat-resistant gloves and safety glasses to remove the battery from the sand, or use a touchless thermometer to measure the battery temperature. Only touch the battery when the event has finished.

Do dispose of the damaged battery or device (including any debris removed from the sand) according to local environmental laws and guidelines.

Hazard Warnings


Broken glass hazard


Rechargeable battery hazard


Chemical exposure hazard

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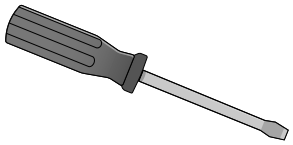
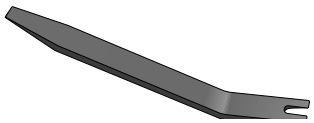
Recommended Tools

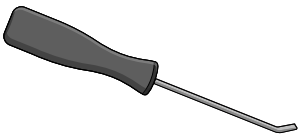
Flat-blade screwdriver



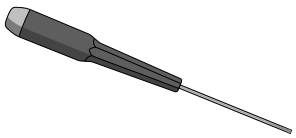
Miniature plastic pry bar



Miniature pry bar



Precision slotted screwdriver



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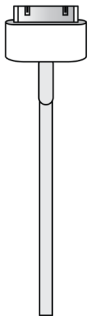
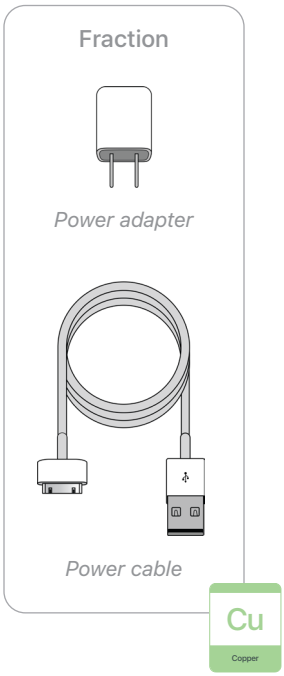
Disassembly Instructions

1. Remove the power adapter and the charge cable.

» *Ensure that the iPhone is turned off.*

» *Unplug the power adapter. Disconnect both ends of the charge cable.*





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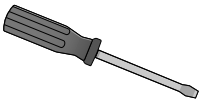
2. Remove the display.

Tools Used

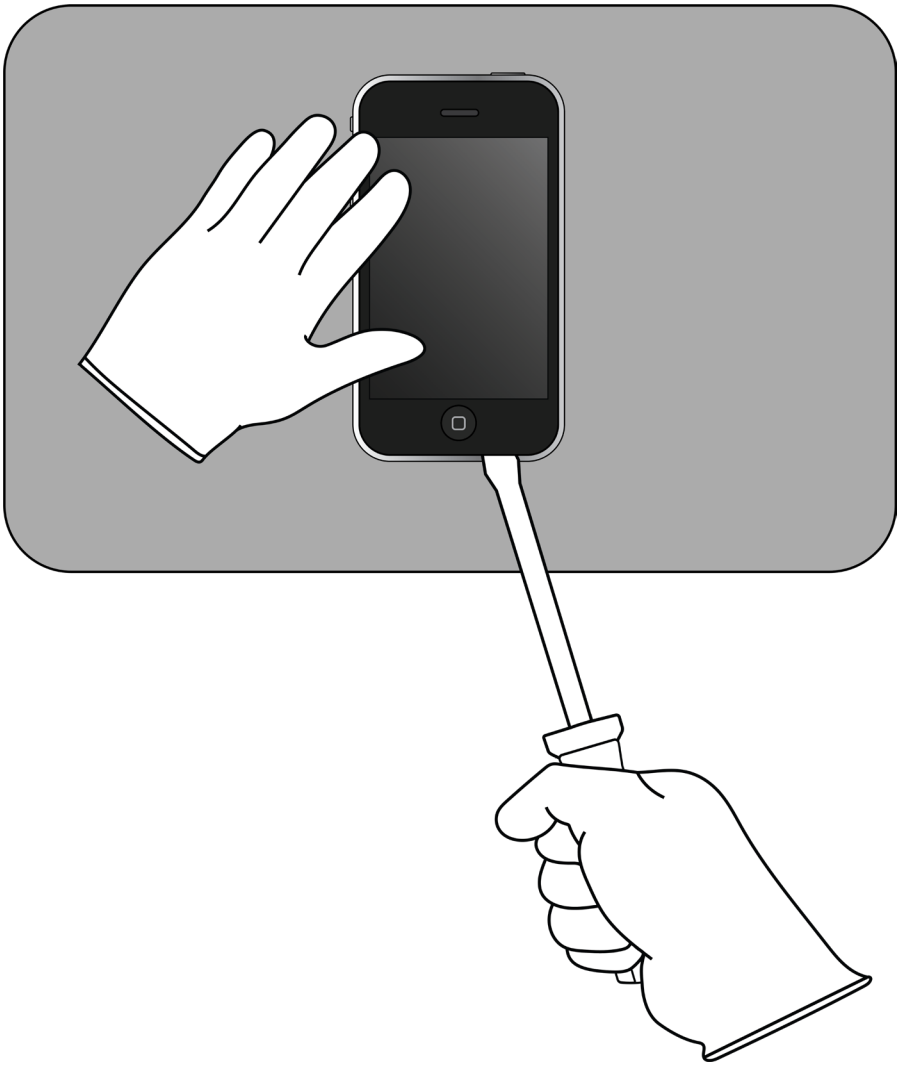


Broken glass hazard

Chemical exposure hazard

» *Lay the iPhone with the display face up.*

» *Insert the tool tip between the display and the enclosure. Push the handle down to pry off the display. Set the enclosure aside.*



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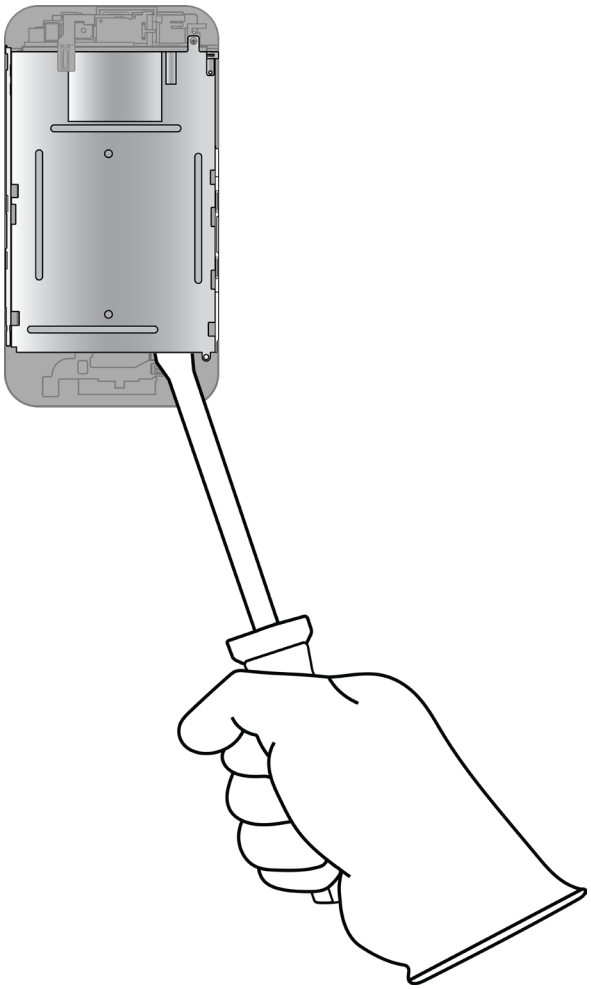
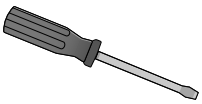
3. Pry off the display cover.



Tools Used



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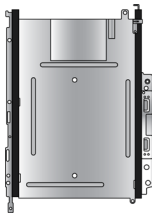

Display cover

Fe

Ferrous

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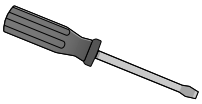
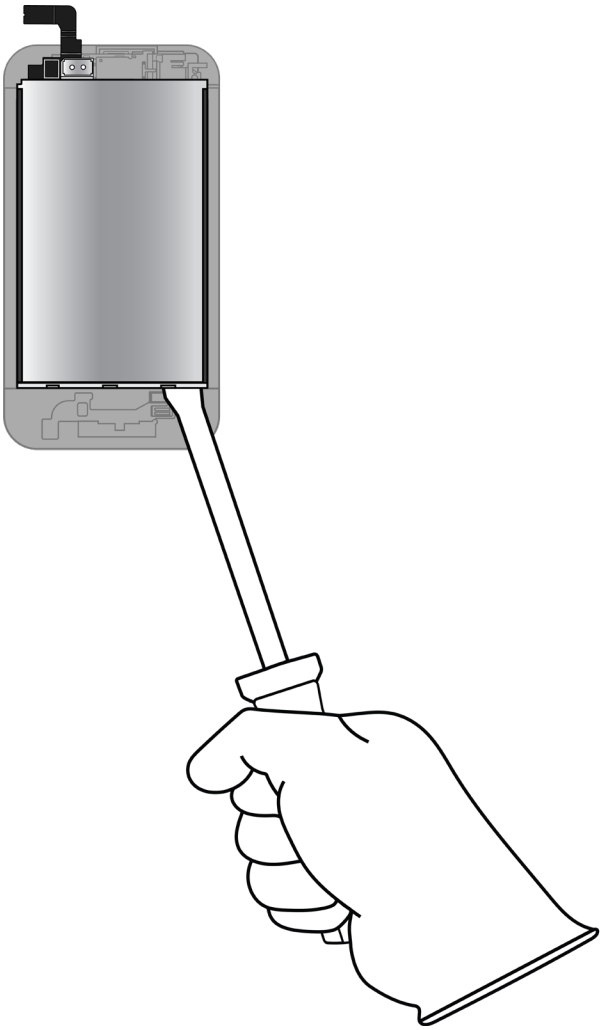
4. Pry off the LCD cell. Set the front panel aside.

Tools Used





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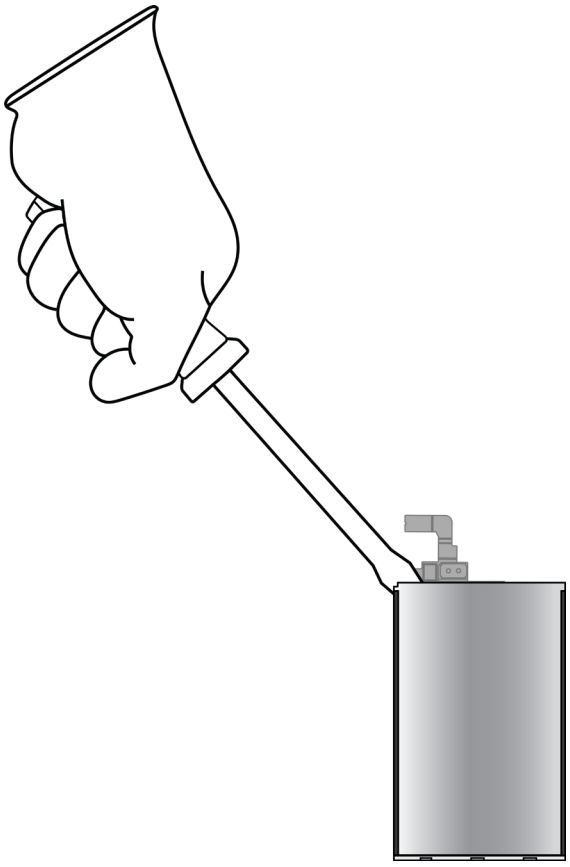
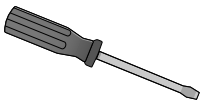
5. Pry the ribbon cable off the LCD cell.



Tools Used



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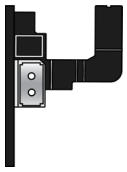
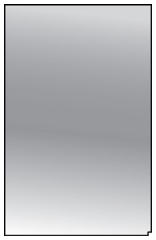


Ribbon cable

Cu
Copper

Fraction



LCD cell

GL
Glass

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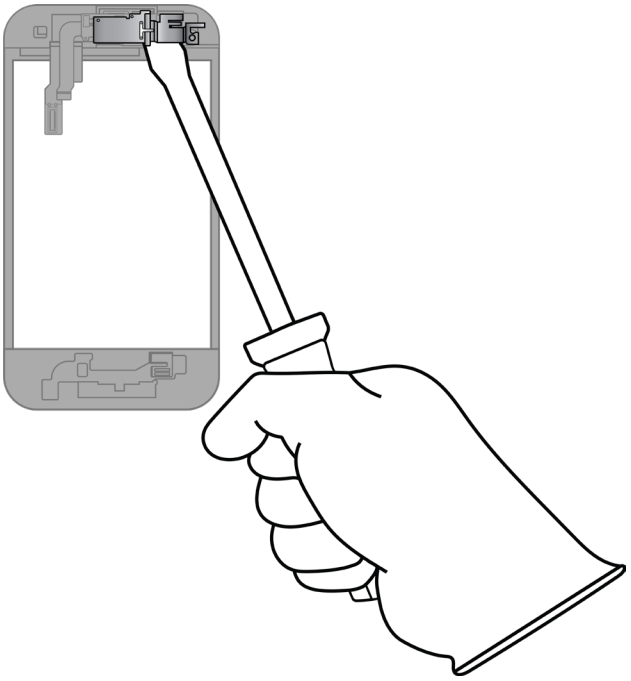
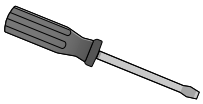
6. On the front panel, pry off the receiver cover.



Tools Used



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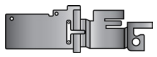

Receiver cover

Fe

Ferrous

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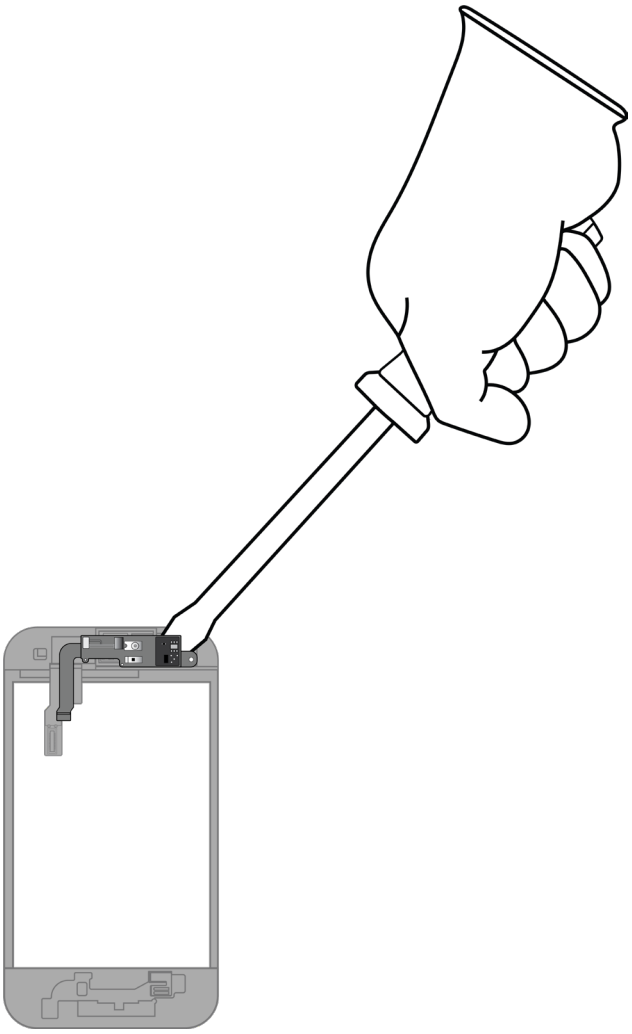
7. Pry the ribbon cable off the receiver.



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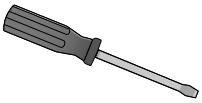

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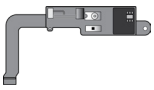

Ribbon cable

Cu
Copper

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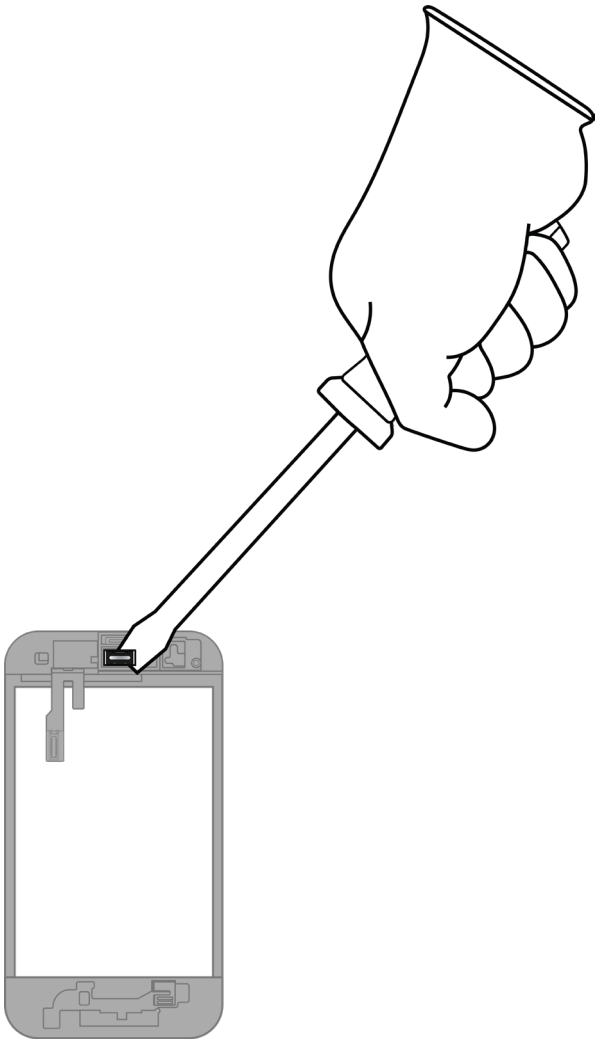
8. Pry off the receiver.



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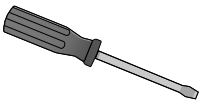

Fraction

Receiver

REE

Rare Earth Elements

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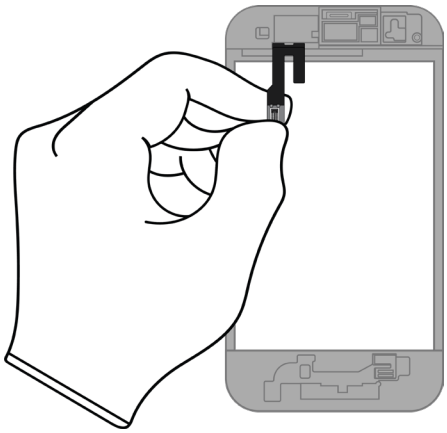
9. Pull the remaining ribbon cable off the front panel.



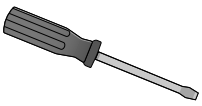
Fraction

Ribbon cable

Cu
Copper

10. Pry the Home button assembly off the bottom of the front panel.

Tools Used



Fraction

Front panel

GL
Glass

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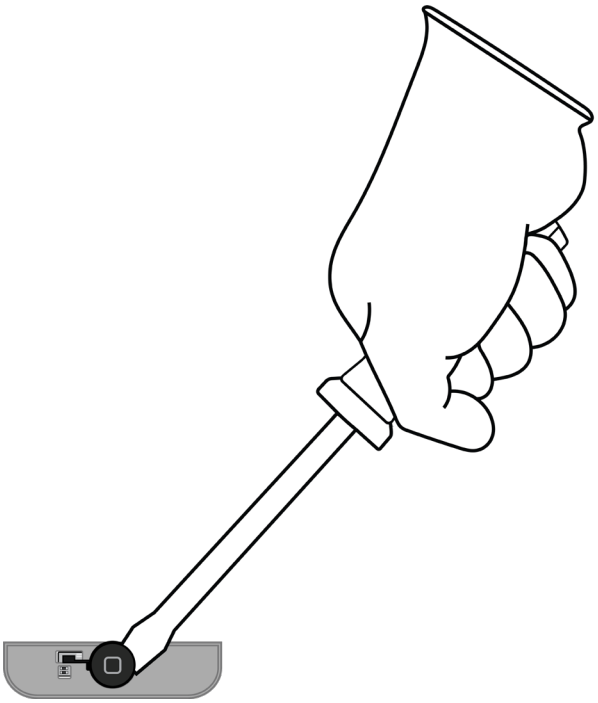
11. Pry the Home button off its cover.



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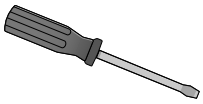

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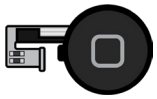

Home button

Cu
Copper

Fraction

Home button cover

PL
Plastics

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12. Remove the SIM tray from the enclosure. Separate the SIM card from the SIM tray.

Fraction

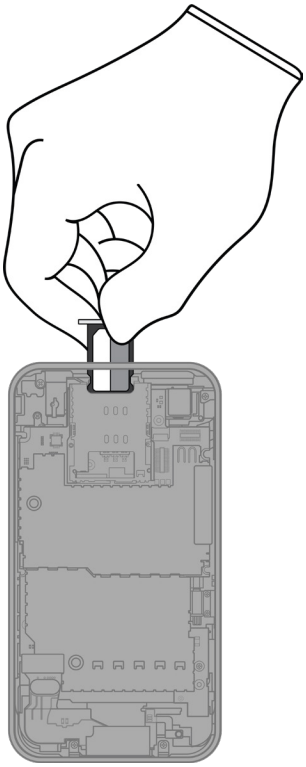
SIM card

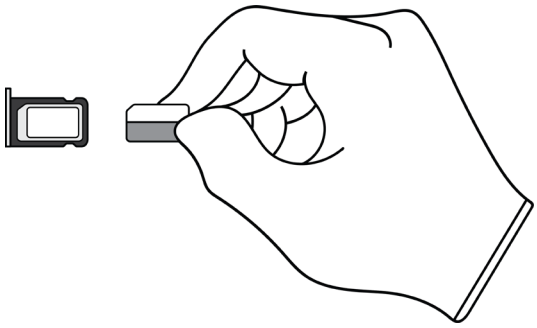
PMs
Precious Metals

Fraction

SIM tray

PL
Plastics





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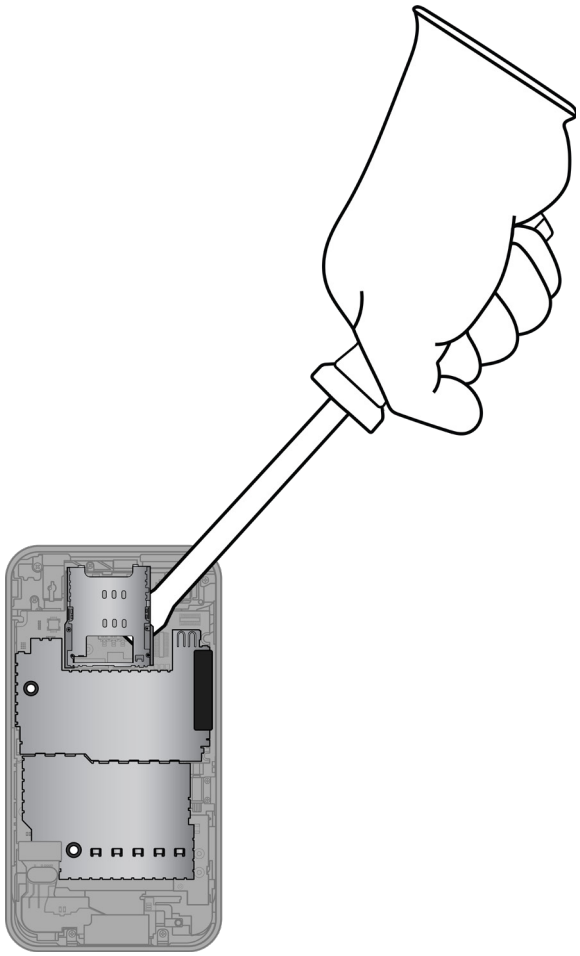
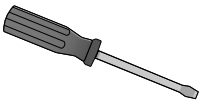
13. Pry off the three main logic board covers.



Tools Used



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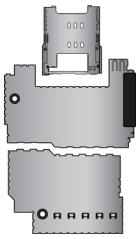

Main logic board covers

Fe

Ferrous

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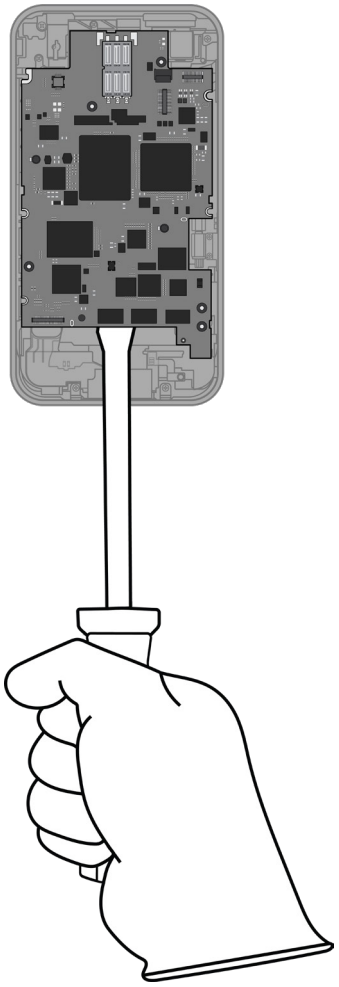
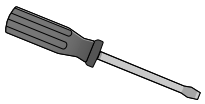
14. Pry off the main logic board.



Tools Used



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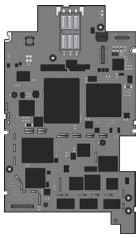

Main logic board

PMs
Precious Metals

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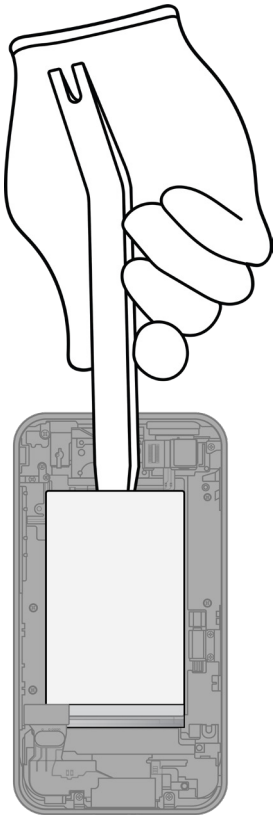
15. Carefully remove the lithium-ion polymer battery.

Rechargeable battery hazard

Tools Used



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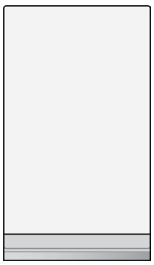

Lithium-ion polymer battery

BT
Battery

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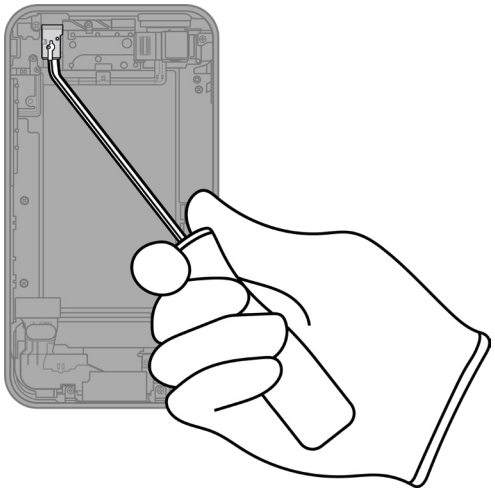
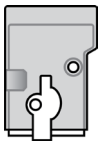
16. Pry off the headphone jack.



Tools Used

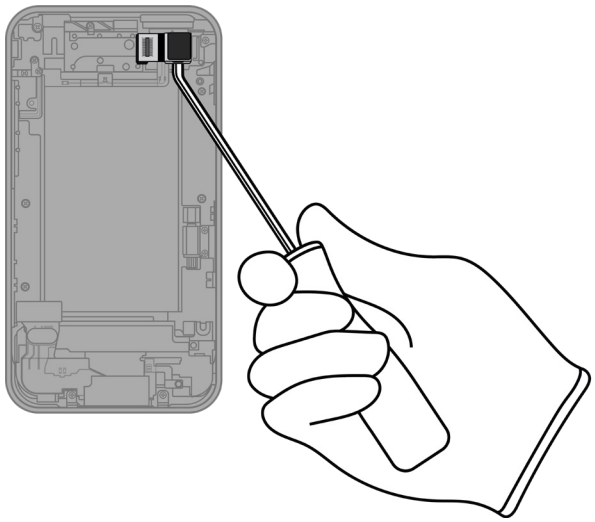
Fraction



Headphone jack

Cu
Copper

17. Pry off the camera.



Tools Used

Fraction

Camera

PMs
Precious Metals

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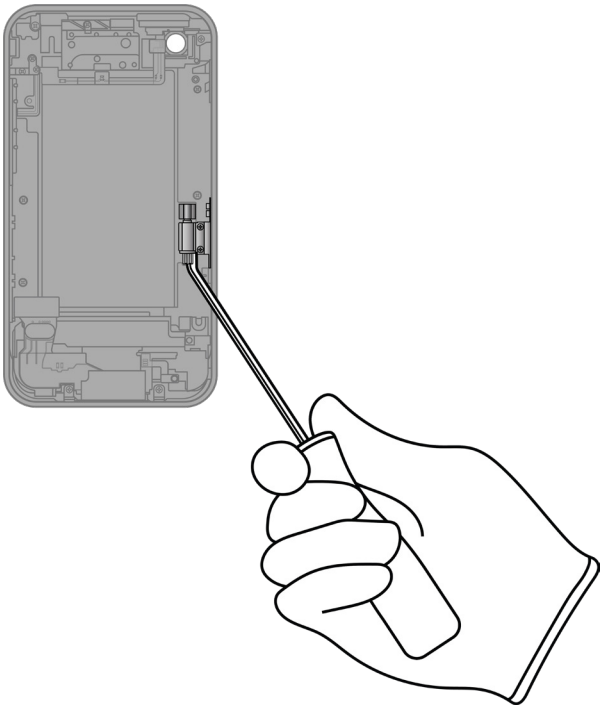
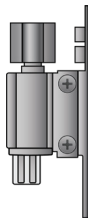
18. Pry off the vibration motor.



Tools Used

Fraction



Vibration motor

Cu
Copper

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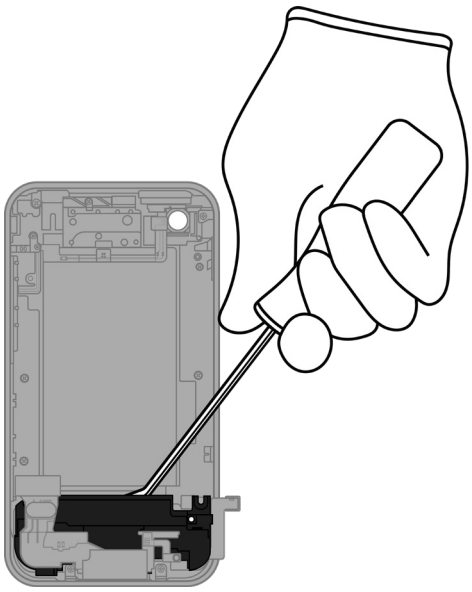
19. Pry off the speaker assembly. Set the enclosure aside.

Tools Used



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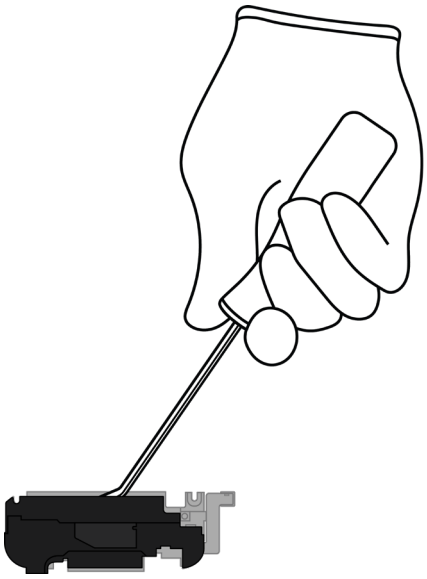
20. Pry off the speaker lid.



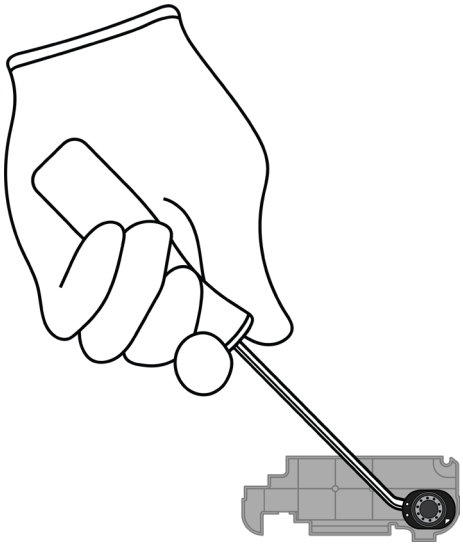
Tools Used

Fraction

Speaker lid

PL
Plastics

21. Pry off the speaker.



Tools Used

Fraction

Speaker

REE
Rare Earth Elements

Fraction

Speaker enclosure

PL
Plastics

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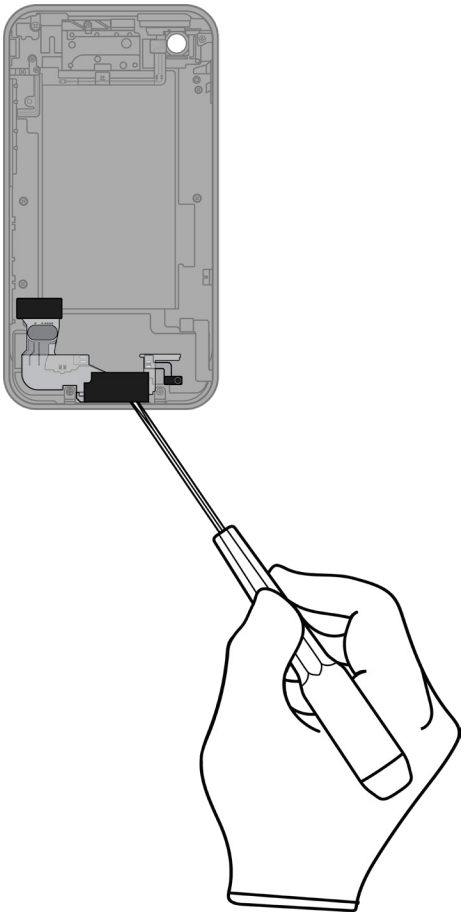
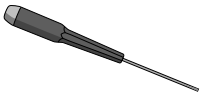
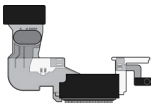
22. Inside the enclosure, pry off the charging port.



Tools Used



Fraction



Charging port

Cu
Copper

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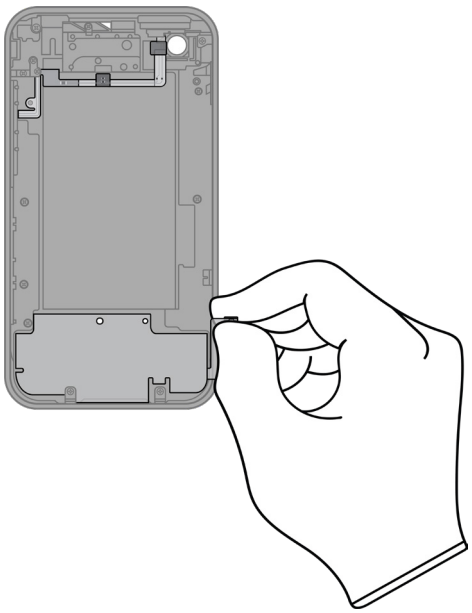
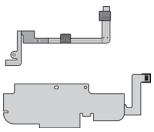
23. Remove the two ribbon cables from the top and bottom of the enclosure.



Fraction



Ribbon cables

Cu

Copper

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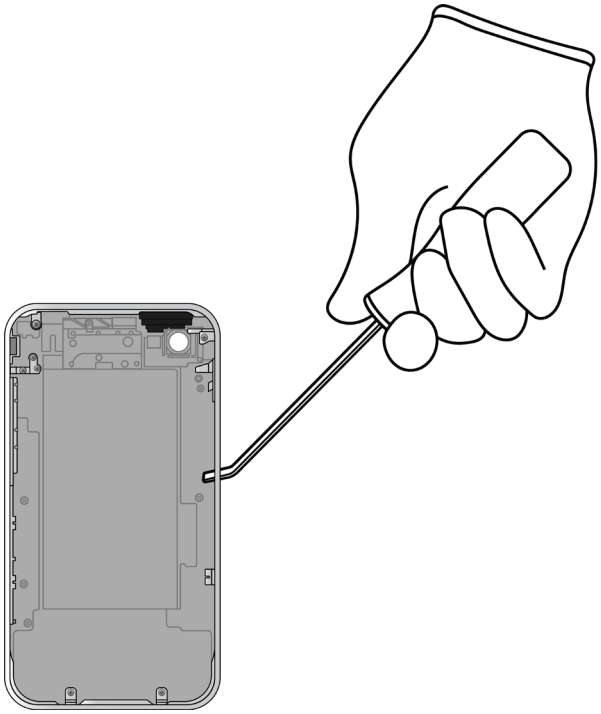
24. Pry the enclosure band off the cover.



Tools Used

Fraction

Enclosure band

Fe
Ferrous

Fraction

Enclosure cover

PL
Plastics

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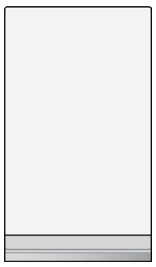
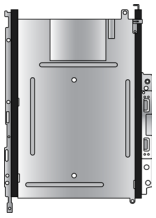
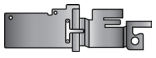
Material Categorization of Output Fractions

All outputs from this process must be managed, handled, and disposed of in accordance with applicable waste laws and regulations, including but not limited to the Waste Framework Directive and its national enactments in Europe.

Fraction	Downstream Processing
Batteries  *Lithium-ion polymer battery*	**Primary Target Material** 
Ferrous  *Display cover*  *Receiver cover*	**Primary Target Material**  **Potential Additional Materials** 

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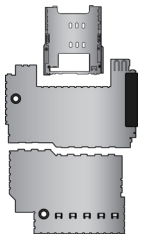
Fraction	Downstream Processing

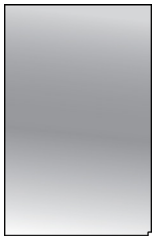
Ferrous (cont.)



Main logic board covers

Enclosure band

Glass



LCD cell

Front panel

Primary Target Material

GL
Glass

Potential Additional Materials

ITO
Indium Tin Oxide

PL
Plastics

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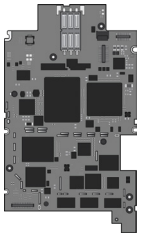
Fraction	Downstream Processing
Logic Boards	**Primary Target Material**
 *SIM card*	PMs Precious Metals
 *Main logic board*	**Potential Additional Materials**
 *Camera*	Al Aluminum Cu Copper Fe Ferrous GL Glass PL Plastics

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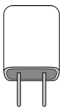
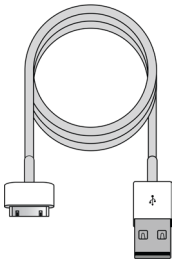
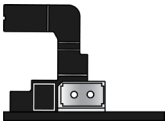
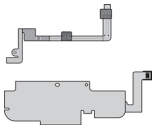
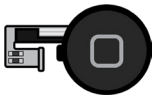
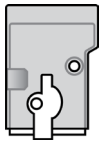
Fraction	Downstream Processing
Mixed Electronics	**Primary Target Material**
 *Power adapter*	Cu Copper
 *Charge cable*	**Potential Additional Materials**
 	Fe Ferrous PL Plastics PMs Precious Metals
 *Ribbon cables*	
 *Home button*	
 *Headphone jack*	

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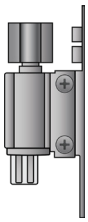
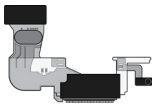
Fraction	Downstream Processing
Mixed Electronics (cont.)	
 *Vibration motor*	
 *Charging port*	
Mixed Plastics	**Primary Target Material**
 *Home button cover*	
 *SIM tray*	
 *Speaker lid*	

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Fraction	Downstream Processing

Mixed Plastics (cont.)

Speaker enclosure

Enclosure cover

Rare Earth Magnets

Receiver

Speaker

Primary Target Material

REE
Rare Earth Elements

Potential Additional Materials

Cu
Copper

Fe
Ferrous

PL
Plastics

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