

# ABS Group Field Investigation Tools/Equipment/Supplies

The following equipment has been found useful to root cause analysis teams. Not all items are needed or appropriate for every investigation, but should be available on short notice. If items are readily available through other processes, they do not need to be part of the RCA investigation kit.

## **Personal equipment**

Personal equipment should be packed into a single soft-pack container that can be carried with shoulder straps or attached around the waist, thus leaving both hands free. ABS Group personnel frequently use the Maxipedition® Jumbo™ Versipack®.

## **Evidence collection equipment**

- Good quality camera, capable of taking sharply focused photos (both close-up and wide angle); flash. Should have GPS capability.
  - Extra batteries; extra data storage media (or film if using that media)
- Note pad, clipboard, pens, pencils – for taking notes – paper should be waterproof to allow for writing in the rain
- Small portion of whiteboard (5”x8”) – for photo and video identification
- Dry erase markers – for use on the whiteboards to identify objects in photos and videos
- North arrow and highlight arrows/markers – to show orientation in photographs/videos and highlight important items in photographs/videos
- Evidence collection tags – should be resistant to water and UV damage
- Zip ties – to attach evidence tags to items (may need to be replaced by wire rope for long term storage)
- Side cutters – for cutting of zip ties
- Flashlight (explosion proof) – for illumination Assorted plastic bags (storage and sandwich size) – for storage of samples and other items
- Laser pointer – to perform walkdowns of field equipment and highlight items in photographs – usually not inherently safe
- Rulers (12”), measuring rod (6’), and tape measure (25’) – to include in photographs and measure distances – reference rulers with large markings (good for photographs) available from crime scene equipment web sites
- Evidence collection notebook – to document the evidence collected during the investigation
- Paint pens – used to mark evidence and evidence tags for identification purposes
- Pocket extension mirror – to see behind objects
- Magnifying glass – to see smaller items
- Wire brushes, duct tape, several 2" (50 mm) nails, toothbrush - for cleaning soot/debris off selected items
- Swiss Army-type knife (Philips and regular screwdrivers, scissors) – for disassembly of items

## **Protective gear**

- Fire retardant clothing (or other appropriate clothing for the incident scene)
- Hard hat, goggles, steel-toed boots – for personal protection – check local requirements
- Gloves – leather and laetrile – to avoid contamination of items and provide personal protection from chemicals

## ABS Group Field Investigation Tools/Equipment/Supplies

- Respiratory protection – may be needed for protection from airborne materials (particulate and gaseous)
- Rain suit – may need to be fire retardant
- Fall protection – for elevated work – check local requirements
- Cold-weather gear – to keep warm
- Water bottle/hydration fluid – to provide fluids during hot conditions – check facility rules about bringing these into the area of the incident
- Personal flotation device – for incidents at docks and offshore

### **Team Gear**

Team gear should be packed in a container that is easy for personnel to move to the incident scene. ABS Group typically uses a large rolling bag to move group equipment to/from the incident scene. A job box may be used to secure the items at the incident scene.

- Laser measurement tool – to measure distances where tape measures cannot be safely used
- Digital SLR camera with multiple lenses – used to take photos of distant objects or extreme close-up photographs with a ring flash
- GoPro® type camera - for taking photographs where conventional cameras do not work well
- Calipers – for measuring the thickness of items
- Sample containers – for collecting samples. Typically, glass jars and unlined paint cans
- Incident scene and evidence storage area signs – indicating that the area should only be accessed with permission from the investigation team
- Barrier tape – to mark the boundary of the incident scene
- Tamper evident tape – to seal evidence containers
- Tamper indicating devices – for evidence areas and containers
- Locks – for evidence areas and containers