Purpose
The rising need for respirators especially in new situations has meant an increase in the need for fit testing and a shortage of fit test hoods. This document outlines a method to build a substitute hood to fill the immediate need. The materials listed here were selected for a small build, and therefore were based on what we could get quickly. There are likely other sources that could serve this purpose for lower cost.

Requirements
Fit test hoods do not need to be air-tight since their purpose is largely just to trap aerosolized spray near the subject's face. The hood material must be able to be cleaned, and the size should be large enough that the subject can move their head and neck while wearing the respirator to check for fit in different body positions.
Fit Test Hood - Parts List

Window
Clear window for seeing and communicating with tester. We found vinyl curtain strip material that works well for this. It comes on a roll already cut to the proper height. It is easily cut to length with an exacto knife and use a punch for the hole. A 30 ft roll will make 30 hoods.

McMaster Carr
Door Strip Roll
6" Wide x 0.06" Thick, 30 Feet Long
1894A195

Hood
The hood material is made from Tyvek which is lightweight, waterproof and tear resistant. We are using a plain roll from McMaster Carr but banner plotter paper and housewrap are also good alternatives that may be cheaper. We cut out the patterns with an exacto knife using a template to mark the cut for the windows. A 100 ft. roll will yield 30 hoods.

McMaster Carr
Tyvek Polyethylene Fabric
24" Wide x 0.0081" Thick, 100 Feet Long
1650T11
Collar

The collar gives the hood structure and rests on the shoulders of the person being fitted. We found a 12” diameter bucket was the perfect size and the lip gave a place to zip tie the fabric portion. Most 5 gallon buckets are 12” but we also found shorter ones that minimized waste material. After marking with the template, the bottom of the bucket is cut off with a jigsaw. Make sure to deburr the sharp edges.

McMaster Carr
Polyethylene Plastic Pail
Round, 3-1/2 Gallon Capacity, White
4269T33

Additional Materials

- Clear packing tape - This both temporarily attaches the window to the hood and makes it easier to sew the vinyl. We found that the foot would stick without it.
- Nylon upholstery thread
- Zip ties

McMaster Carr
Cable Tie
Wide, 24" Long, 120 lbs. Breaking Strength,
Off-White
7130K912

Collar cutting template - 1:1 scale (template goes ¼ of the way around the bucket)
**Mark collar:** The template aligns with the lower rim on the bucket and is mirrored on the back.

**Cut collar:** Cut with a jigsaw and deburr any rough edges with a blade and sandpaper.

**Sew window** Align window on Tyvek and fix with packing tape. Sew with ¼” seam allowance.

**Sew edges:** Fold hood in half and sew along the side and top with a ½” seam allowance.

**Sew corners:** Fold open and sew 4” from both corners to create structure front to back.

**Attach hood:** Pull hood over collar and secure using 2 zip ties beneath the top rim of bucket.