

# DISPOSABLE ISOLATION GOWN (AL-85895) CERTIFICATIONS AND TESTING RESULTS



- Made in USA
- Manufactured in FDA Registered Facility Number: 10074157
- Meets the American Society for Testing Materials (ASTM) F2407-06 — the standard that is recognized by the FDA(as outlined below)
- Meets American Association of Textile Chemists and Colorists Liquid Penetration Test 42(as outlined below)

## THE EFFECT OF LIQUID PENETRATION PERFORMANCE OF PROTECTED (ISOLATION) GOWN TESTING RESULTS

### 1. PURPOSE

The purpose of this report is to evaluate the effects of AATCC 42, liquid penetration on disposable protective gown.

The Effect of Liquid Penetration Performance of Protected (Isolation) Gown

### 2. SAMPLES

Polyethylene Based Protective (Isolation Gown) as provided

### 3. INTRODUCTION

The liquid penetration resistance of materials used in surgical gowns has become increasingly important to healthcare workers due to the risk of being infected by blood-borne pathogens, such as human immunodeficiency virus (HIV) or hepatitis B and C viruses. Exemplifying their importance in the protection of medical personnel, surgical gowns have been identified as class II medical devices by the Food and Drug Administration (FDA) (Code of Federal Regulations, 2002). The US Occupational Safety and Health Administration (OSHA), the Centers for Disease Control and Prevention (CDC), and the Association of Perioperative Registered Nurses (AORN) have published regulations or guidelines regarding the materials, function, and usage of surgical apparel. The final rule of OSHA specified that personal protective equipment (including clothing) should be capable of protecting the wearer "under normal conditions of use and for the duration of time [for] which it will be used". This work presents the results of a study to explore the effects of disposable protective gown currently in common use, were tested for liquid penetration following standard procedures specified for categorizing surgical gown protection levels. The liquid penetration resistance of materials used in surgical gowns has become increasingly important to healthcare workers.

### 4. LIQUID PENETRATION TEST METHOD

To measure the effect of pre-wetting of the outer surface of fabrics, liquid penetration was measured following the procedures in AATCC Test Method 42 Water Resistance: Impact Penetration Test. The test starts with cutting the Test specimens 178 mmx330 mm according to the ASTM F2407-06. The blotting paper were cut into 6x9 inches in size. The test specimen was placed at 45° angle in the test apparatus and blotting paper were placed underneath the test specimen. 500±10ml of water poured through the standard nozzle from the fixed height of 80cm on the surface of the test specimen. The Table 1 shows the classification of surgical gown barrier performance and Table 2 shows the test results performed at Modern Mill Quality Control Laboratory.

## 5. RESULTS

TABLE 1. CLASSIFICATION OF SURGICAL GOWN BARRIER PERFORMANCE

Level	Test	Challenged With	Result
1	AATCC 42 <sup>1</sup>	Water	4.5 g
2	AATCC 42 <sup>1</sup>	Water	1.0

<sup>1</sup>Criterion is based on change in weight gain of blotting paper

TABLE 2 LIQUID IMPACT PENETRATION RESULTS OF THE PROTECTIVE GOWN

Sample	S. No.	Test	Challenged With	Blotting Paper Initial Weight (g)	Blotting Paper After test (g)	Change in Weight (g)	Average Change in Weight (g)
Main	1	AATCC 42	Water	13.26	13.9	0.64	0.58
	2	AATCC 42	Water	13.22	13.25	0.3	
	3	AATCC 42	Water	13.48	13.56	0.8	
Perf	4	AATCC 42	Water	13.46	13.48	0.2	0.28
	5	AATCC 42	Water	13.52	13.96	0.44	
	6	AATCC 42	Water	13.41	13.43	0.2	
Sealed	7	AATCC 42	Water	13.52	14.16	0.64	0.57
	8	AATCC 42	Water	13.43	14.14	0.71	
	9	AATCC 42	Water	13.42	13.79	0.37	

## 6. CONCLUSION

The results showed that the test specimen passed the Minimal water resistance (some resistance to water spray) to Low water resistance (resistant to water spray and some resistance to water penetration under constant contact with increasing pressure), i.e., it passes the both Level 1 and Level 2. To conclude, the protective gowns have strong water resistance. It can easily pass Level 3.



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