

## 1. INTRODUCTION

This report summarizes work performed by the United States Army Edgewood Chemical Biological Center for AAF International. This work consisted of the requalification of AAF nuclear HEPA filters to the requirements of ASME AG-1-1997, Article FC-5000 (formerly the Army Qualified Products List (QPL) under Mil Standard F-51068F).

The entire range of AAF production HEPA filters shown below are qualified by the tests reported here. In all cases, the "XXX" suffix designates the combination of size and frame type on the drawing:

Item	Description	HEPA Part Number
Frame Separator Media Gasket	Exterior Plywood Aluminum Lydall #3255 Neoprene	105-1332345-XXX
Frame Separator Media Gasket	Exterior Plywood Vinyl Coated Aluminum Lydall #3255 Neoprene	105-1332345-XXX
Frame Separator Media Gasket	Exterior Plywood Aluminum Lydall #3255 Sylgard 5271 or RTV 6137-D1	105-1690833-XXX
Frame Separator Media Gasket	Exterior Plywood Vinyl Coated Aluminum Lydall #3255 Sylgard 5271 or RTV 6137-D1	105-1690833-XXX
Frame Separator Media Gasket	Stainless Steel Aluminum Lydall #3255 Neoprene	105-1413244-XXX or 105-883025-XXX
Frame Separator Media Gasket	Stainless Steel Vinyl Coated Aluminum Lydall #3255 Neoprene	105-1413244-XXX or 105-883025-XXX
Frame Separator Media Gasket	Stainless Steel Aluminum Lydall #3255 Sylgard 5271 or RTV 6137-D1	105-1689868-XXX
Frame Separator Media Gasket	Stainless Steel Vinyl Coated Aluminum Lydall #3255 Sylgard 5271 or RTV 6137-D1	105-1689868-XXX

NESE 1080

Rev. 1

As was done for the 1994 QPL round, two sets of test filters were prepared that encompass all combinations of AAF nuclear HEPA design. These are:

Item	Group I	Group II
AAF P/N	1690833-502	1689868-509
Frame:	Exterior Plywood	14 Ga. 409 UNS S40900 (riveted)
Separator	Vinyl Coated Aluminum	Vinyl Coated Aluminum
Media	Lydall 3255	Lydall 3255
Size	7 (24 X 24 X 11.5)	7 (24 X 24 X 11.5)
Gasket	Neoprene Downstream	Neoprene Upstream
Gel Seal	GE 6137-D1 Upstream	Dow Corning 527 Downstream

- ◆ Qualification of 24" x 24" x 11.5" filters qualifies all smaller sizes.
- ◆ Qualification of 409 stainless steel frames with coated separators qualifies filters with 409 and 304 stainless steel frames with coated and uncoated separators.
- ◆ Qualification of exterior plywood frames with coated separators qualifies filters with exterior plywood frames with coated and uncoated separators.
- ◆ All filters, regardless of frame type, contain the same media, adhesive and faceguards.
- ◆ The standard sizes and flow rates qualified are:

AG-1 Number Designation	Size Inches	Minimum Rated Airflow	
		SCFM	M <sup>3</sup> /hr
1	8 x 8 x 3 1/8	25	42
2	8 x 8 x 5 7/8	50	85
3	12 x 12 x 5 7/8	125	212
4	24 x 24 x 5 7/8	500	850
5	24 x 24 x 11.5	1000	1700
6	24 x 24 x 11.5	1250	2125
7	24 x 24 x 11.5	1500	2550
9	12 x 12 x 11.5	250	424