



EPR/BL1312IE/V014 Permit Application

Plant Specification

1. Sulphuric Acid Tank Specification – APMG

Good Afternoon Sean

The fume scrubber was originally sized to handle 8.33m³/sec. See attached breakdown of the volume rates this scrubber will now handle from the various extraction points.

The acid tank and acid rinse tank have both be manufactured from a polypropylene internal structure, 8mm thick. The external face of the polypropylene has been reinforced with 3 layers of GRP. The body of the tank has also received additional supports in the way of welded steel box section frames at two positions across the height of the tank body. These steel frames have been encapsulated with a polypropylene cover welded to the main body finished with the 3 layers of GRP.

The base of the tanks have also been reinforced with a steel box section framework, which again has been encapsulated with the polypropylene sheet.

Do you know the concentration of the sulphuric acid and temperature the tank will be handling?

I have attached the drawings of both tanks for your perusal.

I trust the above is inline with your requirements and assure you of our best attention.

Kind regards

Peter Royle
Plastics Division Manager



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Commercial & School Laboratory Furniture – Fume Cupboards – Fans – Fume Scrubbers

Hi Sean

Thank you for your email.

Based on our chemical resistant charts, polypropylene can withstand the following concentrations and temperatures of Sulphuric Acid:

Up to 40% aqueous – 60°C

Up to 60% aqueous – 60°C

Up to 80% aqueous – 40°C

Above 90% aqueous – you may see some deterioration affect.

I trust this helps.

Kind regards

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2. A1 Emissions Point – Sulphuric Acid Flow Rates - APMG

Extraction Volumes	
Tank 1 (Lip Extract) (Barrel Rig)	0.66 m ³ /sec
Tank 2 (Lip Extract) (Barrel Rig)	0.66 m ³ /sec
Tank 3 (Lip Extract) (Barrel Rig)	0.66 m ³ /sec
Tank 4 (Lip Extract) (Barrel Rig)	0.66 m ³ /sec
Wendy House (5m x 1.5m Approx)	1.50 m ³ /sec
Ø1360 Cylindrical tank 1	0.40 m ³ /sec
Ø1360 Cylindrical tank 2	0.40 m ³ /sec
Ø1360 Cylindrical tank 3	0.40 m ³ /sec
Ø1360 Cylindrical tank 4	0.40 m ³ /sec
Kettle drum 1	0.10 m ³ /sec
kettle drum 2	0.10 m ³ /sec
Kettle drum 3	0.10 m ³ /sec
Kettle drum 4	0.10 m ³ /sec
Kettle drum 5	0.10 m ³ /sec
Lip Extraction - Kolene Plant	1.49 m ³ /sec

Total Extract Rate **7.73 m³/sec**

3. Molten Salt Bath Specification –

Hello Sean,

Our molten salt bath designs are the most rugged and robust in our industry. Through over 85 years of experience, we've refined the design countless times in order to maximize lifespan and ensure safety for our customers and their operators.

The design consists of an integrated double containment, with a heavy gauge (typically half inch or ¾ inch plate) inner furnace, enveloped in a lighter gauge outer skin, with insulation sandwiched in between. This provides peace of mind that in the rare event of an inner pot failure, you will not have salt leaking onto your plant floor. The material choice is typically A36 mild carbon steel which is inert to the thermochemical volatility of the molten salt. The steel forms a layer of iron oxide (rust) that does not react with our proprietary cleaning salt formulas. This, too, ensures the longest possible lifespan for the salt bath.

Please let me know if I can provide additional details or more information.

Best regards,

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