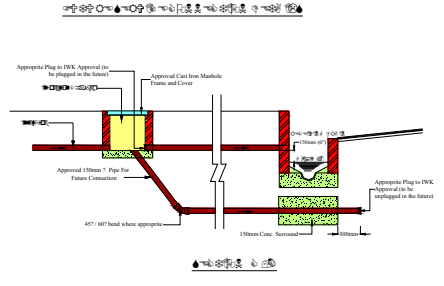


(LULUS OLEH JPP Pada 00/11/1998)

DESIGN PARAMETERS	RST 2	RST 3	RST 5
SEPARATION CHAMBER	2,075	3,075	3,075
FILTRATION CHAMBER	300	400	400
HEIGHT	1,700	1,600	1,600
WIDTH	1,600	1,400	1,400
LENGTH	MM	2,400	2,800
DIAMETER (MM)	150	150	150
THICKNESS	MM	25	25
WEIGHT	KGS	130	210
INLET & OUTLET PIPE DIAMETER	MM	150	150
VENTILATION PIPE DIAMETER	MM	25	25
HYDRAULIC RETENTION TIME	HRS	20	20
FILTER	VOLUME (LITRES)	121	211
ORGANIC LOADINGS	M ³ /M ² /D	1.44	0.97
ORGANIC LOADINGS	KG BOD/M ² /D	0.25	0.25
FILTER MEDIA	KG BOD/M ² /D	0.25	0.25
FILTER SURFACE TO VOLUME RATIO	M ² /M ³	1.50	1.50
POPULATION EQUIVALENT	PE	17.5	22
HEIGHT FROM TOP OF TANK TO INLET PIPE INVERT (I)	MM	330	430
HEIGHT FROM TOP OF TANK TO OUTLET PIPE INVERT (Y)	MM	400	400



- For shallow receiving drain pump may be required.
- The brickwall chamber is an optional if the contractor can join the influent/effluent pipe properly with the septic tank inlet/outlet pipe.
- The contractor should provide 2 nos. of strap wire SS304, 3 mm (and associated anchor hooks) to prevent flotation of tank if very high water table is expected.
- Unless otherwise approved, all manhole's cover and frame shall be 600mm x 600mm or 600mm diameter in size and shall be of ductile iron or chequer plate with 2 layer of Bituminous Black Paint.
- Please take note that JPP Guideline for the Developers vol: 5 (Septic Tank) requires that the 150 bypass pipe for connection to future central network shall be deemed to have included in Engineer / Architects site plan and built accordingly.
- RST septic tanks are not designed to take any traffic loading.
- Inspection/maintenance chamber as shown in this drawing shall be limited to 1 metre deep only.
- JPP Standard requirement is that effluent discharge pipe invert to be preferable 300mm higher than high water level. In no case should the invert be less than 150mm from the high water level, a non return flap to be installed.

EFFICIENCY OF TREATMENT

The RESINTECH Individual Septic Tank Model RST 2 And RST 3 are designed to be used for Residential and Commercial Buildings with a population equivalent of 8 people and 12 people respectively.

The Standard to satisfy is the Malaysian Environmental Quality Regulation 1979 Standard B

STANDARD DESIGN CALCULATION

Design Data:

1. System: Residential / Commercial
 Type of Sewage: ResinTech Individual Septic Tank Model RST2
 Design Flow: 225 liters/day
 Total Flow: 1.8m³/day
 Population Equivalent: 8 PE

2. System: Residential / Commercial
 Type of Sewage: ResinTech Individual Septic Tank Model RST3
 Design Flow: 225 liters/day
 Total Flow: 2.7m³/day
 Population Equivalent: 12 PE

EFFICIENCY OF BOD REMOVAL

ResinTech Individual Septic Tanks Model RST2 and RST3, 60% of the BOD are considered to be removed in the Anaerobic System.

Design Influent x 100 - 60%
 250 mg/l x 100 - 60%
 = 100mg/l

Further in the Filtration Chamber, BOD is further reduced with an efficiency of 75%
 Final BOD = 100 mg/l x (100 - 75%)
 = 25 mg/l

ORGANIC LOADING (OLR)

OLR = Average BOD x Design Flow / (Volume of Septic Tank x 2.0m)

= 0.25 kg/m²/d

HYDRAULIC RETENTION TIME (HRT)

HRT = Chamber Volume / Design Flow
 = 2.0m³ / 1.8m³/day
 = 1.11 days > 24 hours (good for settling of organics)

SLUDGE GENERATION

The design sludge production rate = 0.04 m³ (pey). Assuming the settled sludge can accommodate 40 % of the Chamber.

Estimated desludging period = Volume of sludge accumulated / Sludge produced
 = 0.4 x 2.0 m³ / 0.04 x 8m³/yr
 = 2.5 years

EFFICIENCY OF TREATMENT

The RESINTECH Individual Septic Tank Model RST 5 are designed to be used for Residential and Commercial Buildings with a population equivalent of 22 people respectively.

The Standard to satisfy is the Malaysian Environmental Quality Regulation 1979 Standard B

STANDARD DESIGN CALCULATION

Design Data:

3. System: Residential / Commercial
 Type of Sewage: ResinTech Individual Septic Tank Model RST5
 Design Flow: 225 liters/day
 Total Flow: 5.6m³/day
 Population Equivalent: 22 PE

EFFICIENCY OF BOD REMOVAL

ResinTech Individual Septic Tanks Model RST5, 60% of the BOD are considered to be removed in the Anaerobic System.

Design Influent x 100 - 60%
 250 mg/l x 100 - 60%
 = 100mg/l

Further in the Filtration Chamber, BOD is further reduced with an efficiency of 75%
 Final BOD = 100 mg/l x (100 - 75%)
 = 25 mg/l

ORGANIC LOADING (OLR)

OLR = Average BOD x Design Flow / (Volume of Septic Tank x 2.0m)

= 0.25 kg/m²/d

HYDRAULIC RETENTION TIME (HRT)

HRT = Chamber Volume / Design Flow
 = 5.6m³ / 5.6m³/day
 = 1.01 days > 24 hours (good for settling of organics)

SLUDGE GENERATION

The design sludge production rate = 0.04 m³ (pey). Assuming the settled sludge can accommodate 40 % of the Chamber.

Estimated desludging period = Volume of sludge accumulated / Sludge produced
 = 0.4 x 5.6 m³ / 0.04 x 25m³/yr
 = 2.25 years

NO	REVISION	BY	DATE
1	Site block cover etc	CH	20/07/03
2	Isolate connection	CH	21/08/04
3	Column Ball	CH	26/05/06
4	Frame Connection Using VCP or HDPE Pipe	CH	26/05/06
5	pipe bedding	CH	26/05/06
6	bedding filter chamber is changed	CH	16/05/06
7	JPP Guideline for Developers Vol. 5	CH	27/06/06

JPP Data

NO	REVISION	BY	DATE
1	Site block cover etc	CH	20/07/03
2	Isolate connection	CH	21/08/04
3	Column Ball	CH	26/05/06
4	Frame Connection Using VCP or HDPE Pipe	CH	26/05/06
5	pipe bedding	CH	26/05/06
6	bedding filter chamber is changed	CH	16/05/06
7	JPP Guideline for Developers Vol. 5	CH	27/06/06

PROJECT

LAND OWNER / DEVELOPER :

CONSULTANT / QUALIFIED PERSONS :

MANUFACTURER :

JURIFEM SISOY :

I hereby certify that these works have been design by me according to local engineering practice and that I am fully responsible for the design and proper performance of the same

SUBJECT	SCALE	TAMPA SAKA	DRAWING NO.
		8/58	
		1/1	
		SSJ	
		10/2006	

