Agricultural Slurry Tanks

PERMASTORE® TANKS & SILOS
A Kingspan Company

Secure, Compliant and Long-Life Slurry Storage Solutions



Farm pollution control has become important and effective and secure slurry storage is a critical part of the solution.

Local environmental agencies around the world are using legislation and support schemes to encourage farmers to upgrade their slurry management systems.

This includes drivers such as the European Commission Nitrates Directive and the US Natural Resources Conservation Service Environmental Quality Incentives Programme (EQIP).

To safeguard the environment, slurry is required to be stored at certain times of the year.

Key Benefits of the PERMASTORE® Glass-Fused-to-Steel Tank System

- Corrosion resistance of Glass-Fused-to-Steel reduces day-to-day operation and maintenance costs
- Modular bolted construction enables simple logistics to remote locations and facilitates rapid and cost-effective site installation
- Above ground storage provides security against flooding and minimises the risk of accidents
- Tanks can be fitted with a range of covers to provide effective odour control and weather protection
- The availability of taller tanks simplifies mixing for maximum nutrient benefits
- The modular design allows for future extension, modification or relocation

The PERMASTORE® Solution

This is where the high level of security of the PERMASTORE® tank system is particularly suited. Permastore has been successfully supplying slurry tanks since the late 1960's, demonstrating the durability and longevity of the product in this environment.
The experience we have gained over a period in excess of 60 years in association with independent assessment, continuous product development and improved quality provides a sound basis for a minimum 30 year Design Life in accordance with the requirements of ISO 156861:2011, ISO 15686-2:2012 and ISO 15686-3:2002 which provide the framework for determining and planning a service life of up to 50 years.



Quality & Manufacturing Excellence

The ECOFUSION® agricultural grade finish is subject to Permastore's stringent manufacturing, inspection and testing regimes in accordance with EN ISO and other International Standards.

Permastore has earned its market leading reputation by dedication to the highest quality and commitment to ZERO DISCONTINUITY (defect free at test voltage) glass fusion.

Slurry Tank Capacity Chart for 3 and 4 Ring Tanks

Smaller or larger structures exceeding 50,000m³ are available on request

Nominal Wall Height 4.27m (3 rings)				
Model	Diam	Capacity		Free board
	m	m³	gallons	gallons
3415	10.25	348	76,643	5,442
3915	11.95	474	104,319	7,407
4515	13.66	619	136,254	9,675
5015	15.37	784	172,446	12,245
5615	17.08	968	212,897	15,117
6215	18.79	1,172	257,747	18,302
6715	20.49	1,394	306,571	21,768
7315	22.20	1,635	359,796	25,548
7815	23.91	1,897	417,278	29,629
8415	25.62	2,177	479,018	34,013
9015	27.33	2,479	545,279	38,718
9515	29.03	2,797	615,272	43,688
10115	30.74	3,135	689,786	48,979
10615	32.45	3,493	768,558	54,572
11215	34.15	3,871	851,587	60,468
11515	35.01	4,067	894,699	63,529
11815	35.86	4,268	938,875	66,666
12315	37.57	4,684	1,030,421	73,166
12915	39.28	5,119	1,126,224	79,969
13415	40.99	5,574	1,226,286	87,074
13715	41.84	5,809	1,277,913	90,739
14015	42.69	6,048	1,330,605	94,481
14615	44.40	6,542	1,439,183	102,190

Nominal Wall Height 5.67m (4 rings)				
Model	Diam	Capacity		Free board
	m	m³	gallons	gallons
3420	10.25	464	102,039	5,442
3920	11.95	631	138,887	7,407
4520	13.66	825	181,403	9,675
5020	15.37	1,044	229,588	12,245
5620	17.08	1,288	283,443	15,117
6220	18.79	1,560	343,154	18,302
6720	20.49	1,855	408,157	21,768
7320	22.20	2,177	479,018	25,548
7820	23.91	2,525	555,547	29,629
8420	25.62	2,899	637,746	34,013
9020	27.33	3,300	725,963	38,718
9520	29.03	3,723	819,149	43,688
10120	30.74	4,174	918,354	48,979
10620	32.45	4,651	1,023,228	54,572
11220	34.15	5,154	1,133,770	60,468
11520	35.01	5,414	1,191,167	63,529
11820	35.86	5,682	1,249,982	66,666
12320	37.57	6,236	1,371,862	73,166
12920	39.28	6,816	1,499,411	79,969
13420	40.99	7,421	1,632,629	87,074
13720	41.84	7,733	1,701,364	90,739
14020	42.69	8,052	1,771,516	94,481
14620	44.40	8,709	1,916,072	102,190

Capacities listed are a guide.
Seek local professional advice for capacity planning at a specific site.

Typical capacity for cow slurry
= no. of cows x 12 gallons (54 Litres) x no. of days storage required.

Typical capacity for washing etc.
= no. of cows x 4 gallons (18 Litres) x no. of days storage required.
= gallons of slurry storage required.

Typical capacity for pig slurry
= no. of pigs x 1.5-2.0 gallons (7-10 Litres) x no. of days storage required.
= gallons of slurry storage required.

Typical PERMASTORE® Slurry Storage System

Platform and ladder
Handrails and trapdoor for safety. Removable ladder to prevent unauthorised access.

PVC Dome Roof
Optional extra to provide odour control and weather protection.

Base design
High specification for structural integrity.

Pump
For filling tank or loading field spreader. Adjustable for depth of pit. Directional jetter for mixing.

Valves
Large bore valves for in-line or in-pit fixing. Top access for maintenance. Lockable for safety.

Mixer
Through-the-wall agitation for simple and efficient mixing.

Jetter
Easy to operate directional jetter to reduce slurry crusts.





Standard External Colours

12-B-29
(RAL 6006)
MUNSELL 2.5 GY 2/2

20-C-40
(RAL 5013)
MUNSELL 5PB 2/4



Slurry Tank Capacity Guidance & Compliance

All PERMASTORE® Slurry Tanks comply with BS 5502 parts 22 (2003) & 50 (1993) and The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003, The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations (Northern Ireland) 2003, The Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010 and The Water Resources (Control of Pollution) (Silage, Slurry and Agriculture Fuel Oil) (Wales) Regulations 2010.

Complies with USDA NRCS Standard 313, Waste Storage Facility.

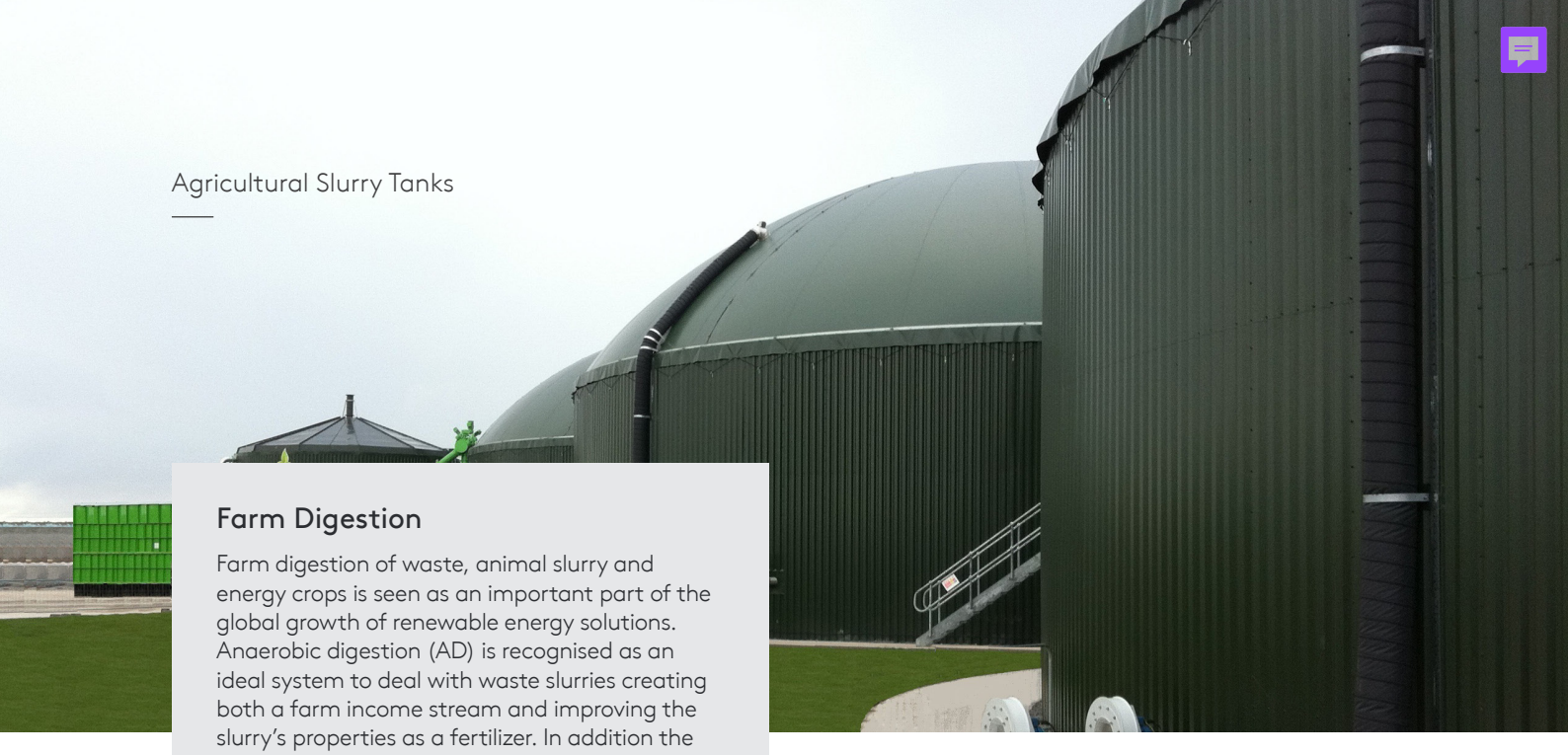
Capacities listed are a guide. Seek local professional advice for capacity planning at a specific site.

N.B. All measurements are nominal.

Capacities are brimful and may reduce with concrete base slab and freeboard. Allowances should be made for the following when calculating sizes for slurry tanks:

- Dirty Water from open yard areas (500 gallons per 1000 sq.ft area for every inch of water).
- Rainfall on the tank itself.
- Freeboard – BS 5502 regulations state that 300mm (1ft) must be left between the slurry level and the top of the tank.

Please note all gallons are UK gallons.



Farm Digestion

Farm digestion of waste, animal slurry and energy crops is seen as an important part of the global growth of renewable energy solutions. Anaerobic digestion (AD) is recognised as an ideal system to deal with waste slurries creating both a farm income stream and improving the slurry's properties as a fertilizer. In addition the digestion of energy crops is rapidly becoming a viable commercial diversification for farmers.

The PERMASTORE® solution to this growth sector offers the following benefits:

- Extensive history and experience of anaerobic digestion tanks dating back to the early 1970's
- Glass-Fused-to-Steel can be utilised in both the liquid zone and the gaseous zone reducing project costs and maximising the Service Life of the tank structure
- Corrosion resistance of Glass-Fused-to-Steel suitable for digesters and ancillary tanks gives long term security, reducing operation and maintenance costs
- Significant benefits of economy and security to farmers and biogas technology companies
- Glass-Fused-to-Steel tanks can also be used for biogas storage by incorporating double membrane roofs
- Modular bolted construction gives rapid and costeffective site installation and the ability to remodel or relocate the structure gives asset value to the product
- Lifetime coating requiring minimal maintenance reduces downtime and therefore revenue losses
- Consistent factory controlled high quality product





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