

# **4 x Biosolid data sheet Hörby, Lyby**

**Municipality of Hörby**

## Product datasheet Lyby WWTP

This batch of sludge is produced at Lyby waste water treatment plant during week 33, 2012 - week 40, 2012  
The biological excess sludge and chemical sludge goes through thickener to a hydro-press, where the polymer Zetag 7550 is added before dewatering. The dewatered sludge is stored on a storage area with no roof.

Dry substance of sludge ( DS %)	14,9
kg DS/ton sludge	149
Dry substance ( % DS before storage)	17,8

### Content of nutritions

	Sludge contents (% av DS)	kg/ton sludge
NH4-N	1,07	1,0728
P-Tot	2,2	3,129
N-tot	6,05	5,215

#### Amount of sludge to be spread - nitrogen

Kg NH4-N/ton sludge	1,07
Maximal amount of sludge to be spread kg N/ha	150
Ton sludge/ha*occasion	140

#### Amount of sludge to be spread - Phosphorous

##### Soil P-class

Class	mg P/100 g dry soil
I	<2
II	2,0-4,0
III	4,1-8,0
IV	8,1-16,0
V	>16

Soil	Kg/ha*år	Kg/ha*occasion
Class I-II	35	245
Class III-IV	22	154

Kg P / ton sludge	3,13
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	Ton sludge
Amount of sludge (ton) to be spread with 35 kg P/ha*year	11
Amount of sludge (ton) to be spread with 245 kg P/ha*occasion (7 years)	78
Amount of sludge (ton) to be spread with 22 kg/ha*year	7
Amount of sludge (ton) to be spread with 154 kg/ha*occasion (7 years)	49

### Metals

	Threshold value in soil (mg/kg DS)	Threshold value ( g/ha*year)	Treshold value sludge (mg/kg DS)	Lyby sludge mean value (mg/kg DS)	Metals (g/kg DS)	Metals (g/ton sludge)
Pb	40	25	100	8,9	0,0089	1,3
Cd	0,4	0,75	2	0,7	0,0007	0,10
Cu	40	300	600	440	0,44	65,6
Cr	60	40	100	18	0,018	2,7
Hg	0,3	1,5	2,5	0,82	0,00082	0,12
Ni	30	25	50	10,5	0,0105	1,56
Zn	100	600	800	500	0,5	74,5

Metals	Ton sludge /ha*year	Ton sludge/ha (7 years)
Pb	18,9	132
Cd	7,2	50
Cu	4,6	32
Cr	14,9	104
Hg	12,3	86
Ni	16,0	112
Zn	8,1	56

limiting give

## Product datasheet Lyby WWTP

This batch of sludge is produced at Lyby waste water treatment plant during week 41, 2012 - week 9, 2013  
The biological excess sludge and chemical sludge goes through thickener to a hydro-press, where the polymer Zetag 7550 is added before dewatering. The dewatered sludge is stored on a storage area with no roof.

Dry substance of sludge ( DS %)	16,25
kg DS/ton sludge	162,5
Dry substance ( % DS before storage)	17,8

### Content of nutritions

	Sludge contents (% av DS)	kg/ton sludge
NH4-N	0,89	1,17
P-Tot	2,1	3,4125
N-tot	5,86	5,6875

#### Amount of sludge to be spread - nitrogen

Kg NH4-N/ton sludge	1,17
Maximal amount of sludge to be spread kg N/ha	150
<b>Ton sludge/ha*occasion</b>	<b>128</b>

#### Amount of sludge to be spread - Phosphorous

##### Soil P-class

Class	mg P/100 g dry soil
I	<2
II	2,0-4,0
III	4,1-8,0
IV	8,1-16,0
V	>16

Soil	Kg/ha*år	Kg/ha*occasion
Class I-II	35	245
Class III-IV	22	154

Kg P / ton sludge	3,41
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	Ton sludge
Amount of sludge (ton) to be spread with 35 kg P/ha*year	10
Amount of sludge (ton) to be spread with 245 kg P/ha*occasion (7 years)	72
Amount of sludge (ton) to be spread with 22 kg/ha*year	6
Amount of sludge (ton) to be spread with 154 kg/ha*occasion (7 years)	45

### Metals

	Threshold value in soil (mg/kg DS)	Threshold value (g/ha*year)	Treshold value sludge (mg/kg DS)	Lyby sludge mean value (mg/kg DS)	Metals (g/kg DS)	Metals (g/ton sludge)
Pb	40	25	100	9,3	0,0093	1,5
Cd	0,4	0,75	2	0,99	0,00099	0,16
Cu	40	300	600	410	0,41	66,6
Cr	60	40	100	17,8	0,0178	2,9
Hg	0,3	1,5	2,5	0,69	0,00069	0,11
Ni	30	25	50	10,3	0,0103	1,67
Zn	100	600	800	472	0,472	76,7

Metals	Ton sludge /ha*year	Ton sludge/ha (7 years)
Pb	16,5	116
Cd	4,7	33
Cu	4,5	32
Cr	13,8	97
Hg	13,4	94
Ni	14,9	105
Zn	7,8	55

limiting give

## Product datasheet Lyby WWTP

This batch of sludge is produced at Lyby waste water treatment plant during week 17 - 31, 2014  
The biological excess sludge and chemical sludge goes through thickener to a hydro-press, where the polymer Zetag 7550 is added before dewatering. The dewatered sludge is stored on a storage area with no roof.

Dry substance of sludge ( DS %)	13
kg DS/ton sludge	130
Dry substance ( % DS before storage)	14,9

### Content of nutritions

	Sludge contents (% av DS)	kg/ton sludge
NH4-N	1,40	0,936
P-Tot	2,2	2,73
N-tot	6,60	4,55

#### Amount of sludge to be spread - nitrogen

Kg NH4-N/ton sludge	0,94
Maximal amount of sludge to be spread kg N/ha	150
<b>Ton sludge/ha*occasion</b>	<b>160</b>

#### Amount of sludge to be spread - Phosphorous

##### Soil P-class

Class	mg P/100 g dry soil
I	<2
II	2,0-4,0
III	4,1-8,0
IV	8,1-16,0
V	>16

Soil	Kg/ha*år	Kg/ha*occasion
Class I-II	35	245
Class III-IV	22	154

Kg P / ton sludge	2,73
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	Ton sludge
Amount of sludge (ton) to be spread with 35 kg P/ha*year	13
Amount of sludge (ton) to be spread with 245 kg P/ha*occasion (7 years)	90
Amount of sludge (ton) to be spread with 22 kg/ha*year	8
Amount of sludge (ton) to be spread with 154 kg/ha*occasion (7 years)	56

### Metals

	Threshold value in soil (mg/kg DS)	Threshold value (g/ha*year)	Treshold value sludge (mg/kg DS)	Lyby sludge mean value (mg/kg DS)	Metals (g/kg DS)	Metals (g/ton sludge)
Pb	40	25	100	8	0,008	1,0
Cd	0,4	0,75	2	0,63	0,00063	0,08
Cu	40	300	600	520	0,52	67,6
Cr	60	40	100	18	0,018	2,3
Hg	0,3	1,5	2,5	0,33	0,00033	0,04
Ni	30	25	50	12	0,012	1,56
Zn	100	600	800	500	0,5	65,0

Metals	Ton sludge /ha*year	Ton sludge/ha (7 years)
Pb	24,0	168
Cd	9,2	64
Cu	4,4	31
Cr	17,1	120
Hg	35,0	245
Ni	16,0	112
Zn	9,2	65

limiting give

## Product datasheet Lyby WWTP

This batch of sludge is produced at Lyby waste water treatment plant during week 32, 2013 - week 13, 2014  
The biological excess sludge and chemical sludge goes through thickener to a hydro-press, where the polymer Zetag 7550 is added before dewatering. The dewatered sludge is stored on a storage area with no roof.

Dry substance of sludge ( DS %)	13
kg DS/ton sludge	130
Dry substance ( % DS before storage)	15

### Content of nutritions

	Sludge contents (% av DS)	kg/ton sludge
NH4-N	1,38	0,936
P-Tot	2,0	2,73
N-tot	6,38	4,55

#### Amount of sludge to be spread - nitrogen

Kg NH4-N/ton sludge	0,94
Maximal amount of sludge to be spread kg N/ha	150
<b>Ton sludge/ha*occasion</b>	<b>160</b>

#### Amount of sludge to be spread - Phosphorous

##### Soil P-class

Class	mg P/100 g dry soil
I	<2
II	2,0-4,0
III	4,1-8,0
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Soil	Kg/ha*år	Kg/ha*occasion
Class I-II	35	245
Class III-IV	22	154

Kg P / ton sludge	2,73
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	Ton sludge
<b>Amount of sludge (ton) to be spread with 35 kg P/ha*year</b>	<b>13</b>
<b>Amount of sludge (ton) to be spread with 245 kg P/ha*occasion (7 years)</b>	<b>90</b>
<b>Amount of sludge (ton) to be spread with 22 kg/ha*year</b>	<b>8</b>
<b>Amount of sludge (ton) to be spread with 154 kg/ha*occasion (7 years)</b>	<b>56</b>

### Metals

	Threshold value in soil (mg/kg DS)	Threshold value (g/ha*year)	Threshold value sludge (mg/kg DS)	Lyby sludge mean value (mg/kg DS)	Metals (g/kg DS)	Metals (g/ton sludge)
Pb	40	25	100	7,9	0,0079	1,0
Cd	0,4	0,75	2	0,81	0,00081	0,11
Cu	40	300	600	413	0,413	53,7
Cr	60	40	100	14,3	0,0143	1,9
Hg	0,3	1,5	2,5	0,27	0,00027	0,04
Ni	30	25	50	14,3	0,0143	1,86
Zn	100	600	800	430	0,43	55,9

Metals	Ton sludge /ha*year	Ton sludge/ha (7 years)
Pb	24,3	170
Cd	7,1	50
Cu	5,6	39
Cr	21,5	151
Hg	42,7	299
Ni	13,4	94
Zn	10,7	75

limiting give