

# Ultra Kyma

PP SN8 structured wall piping system for large diameter drainage



**DYKA**

# Ultra Kyma PP SN8 structured piping system for (water) drainage

## Ultra Kyma for the drainage of surface and rainwater

Ultra Kyma consists of double-layered polypropylene, manufactured by simultaneous extrusion of the inside and outside. Both layers are adhered to each other during a continuous process by heating.

This corrugated pipe is used for the drainage of surface and rainwater, while thanks to the innovative corrugated profile it is lighter and stronger and offers firmer grip in the soil. Ultra Kyma is therefore an affordable and efficient piping system.

## Complete system

Ultra Kyma is available from stock in the diameters DN 300, 400, 500, 600 and 800 millimetres in effective length of 6 metres. A complete range of ready-to-use fittings is available for the various diameters. This includes gullies and inspection chambers. All parts in the Ultra Kyma range are made of polypropylene. The Ultra Kyma pipes and fittings are produced in conformity with EN 13746-3.

## Optimal drainage qualities

The Ultra Kyma is black on the outside and grey on the inside (RAL 7037), whereby the exterior is corrugated and the inside is completely smooth to ensure optimum water drainage. The corrugated wall ensures the necessary flexibility and prevents damage during laying activities.

## Long life

Ultra Kyma is classified as flexible piping and designed to adapt external pressure. It has been calculated that this piping material will remain dimensionally stable for at least 50 years. This means Ultra Kyma amply complies with all conditions and requirements from the authorities. The corrugated piping system is therefore resistant to compressive loads caused by traffic with minimal ground cover.

## Areas of application:

- Road, rail and airport infrastructures
- Agriculture, playing fields and leisure parks
- Shop and office areas and industrial construction projects
- Ventilation and geothermal energy collectors
- Pits and prefab constructions



## Advantages

- ✓ **Damage resistant at low temperature (till -10°C).** The unique, corrugated design with the application of twin wall polypropylene ensures extra stability and prevents damage during installation, even at low temperature.
- ✓ **Ease of installation.** Ultra Kyma is quick and simple to install. This means that the trench can be closed-up faster, and less inconvenience originates for people living in the vicinity and traffic.
- ✓ **Seal connections.** The sealing properties of the connecting parts were tested at a water pressure of 0.5 bars and an air pressure of -0.3 bars.
- ✓ **Ring flexibility 30%.** The pipe can deform up to 30% of its diameter without being damaged.
- ✓ **Stiffness SN8.** Thanks to the high dimensional stability and stiffness of the material, Ultra Kyma undergoes practically no deformation, even at heavy traffic areas.
- ✓ **High-quality material.** The use of only polypropylene and colour pigments without further additives contributes to the high quality of the Ultra Kyma: the excellent chemical resistance creates a long lifetime expectancy.
- ✓ **The light weight** of Ultra Kyma results in simple transport and ease of installation.
- ✓ **The smooth inner surface** is synonyme for high flow capacity
- ✓ With **lengths** of 6 metres, work can be done more easily and quickly than with usually shorter concrete elements.
- ✓ Ultra Kyma can be **simply sawed to size**, and the piping end does not have to be chamfered.
- ✓ The corrugated outside ensures **better bedding in the earthwork** and prevents the piping from shifting during installation activities on hilly terrain.
- ✓ Sustainable and fully (100%) recyclable.

DN/ID mm	Outside Ø mm	Standard length* in m	Packed per
<b>300/297</b>	340	6.0	8 pcs
<b>400/396</b>	453	6.0	4 pcs
<b>500/495</b>	567	6.0	4 pcs
<b>600/594</b>	680	6.0	2 pcs
<b>800/792</b>	906	6.0	2 pcs

\* effective length



## Smooth inside, corrugated on the outside



- **Excellent flow rate.** The smooth inner surface and the round shape of the pipes and fittings ensure a high drainage capacity (hydraulic capacity). This prevents dirt accumulation in the piping.
- **Better grip.** The corrugated profile on the outside not only guarantees the necessary flexibility, it also prevents the Ultra Kyma from shifting during installation on hilly terrain.
- **Calculated for heavy loads.** The innovative profile ensures an SN8 material stiffness.

## Simple laying

- **Light weight.** The significantly lower weight of ULTRA KYMA compared to concrete and cast-iron pipes represents an important advantage during the laying and installation of the pipes.
- **Ease of installation.** Thanks to the easy to handle standard lengths of 6 metres, ULTRA KYMA is quick and simple to lay.



## Hydraulic capacity

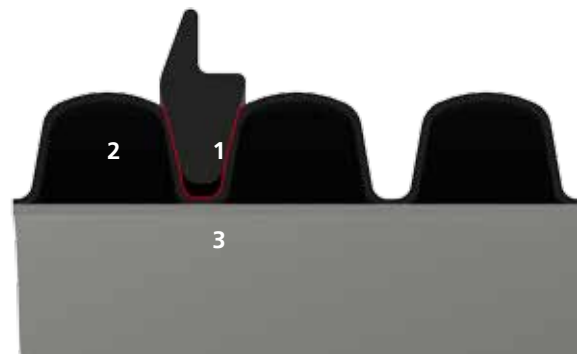
Ultra Kyma has a completely smooth and non-porous interior, with a surface roughness of no more than 0.005 to 0.05 mm. A calculated wall roughness of approx. 0.25 mm can be assumed for a complete Ultra Kyma system including pits.

This summary shows the hydraulic capacity of the different diameters:

Inclination in per thousands					
	300	400	500	600	800
‰	l/s	l/s	l/s	l/s	l/s
1	37	80	144	232	495
2	53	114	206	332	707
3	66	141	253	409	870
4	77	163	294	474	1007
5	86	183	329	531	1128
6	94	201	361	583	1237
7	102	217	391	630	1338
8	109	233	418	674	1432
9	116	247	444	716	1517
10	122	261	468	755	1603
15	150	320	575	927	1967
20	174	371	665	1072	2275
25	195	415	745	1200	2545
30	214	455	817	1316	2790
35	231	492	883	1422	3015
40	247	526	944	1521	3225
45	263	558	1002	1614	3413
50	277	589	1056	1702	3608
55	291	618	1108	1786	3785
60	304	646	1158	1865	3954
65	315	672	1206	1942	4117
70	328	698	1251	2016	4273
75	340	722	1296	2087	4423
80	351	746	1338	2156	4569
85	362	769	1380	2222	4710
90	373	792	1420	2287	4848
95	383	814	1459	2350	4981
100	393	835	1497	2412	5111



## Sealing ring



1. Sealing ring
  - Fit the sealing ring with the wedge-shaped side downwards in the first groove of the pipe
  - Fit the sealing ring with the wedge-shape downwards and the upright edge of the ring facing outwards
2. Piping profile
3. Groove



## Soil compaction 'GOOD'

With application in a grainy soil, the ULTRA KYMA is laid in a trench, with the soil material applied in layers of at most 30 cm and with each layer being carefully compacted. The pipes must always be covered with a soil layer of at least 15 cm before the foundation layer is placed. For the rate of compaction of the foundation and the laying bed, a standard Proctor value of over 94% applies.

## Soil compaction 'MEDIUM'

Here the grainy soil is applied in layers of at most 50 cm, with each layer being carefully compacted. The pipes must also always be covered with a soil layer of at least 15 cm before the foundation layer is placed. For the rate of compaction of the foundation and the laying bed here, a standard Proctor value of 87 to 94% applies.

## Specifications

### Material strength at 0 °C

Within the context of EN 13476-3, strength tests were carried out at 0 °C. The outcome is, that tested components are resistant to the impact of a weight of 0.5 kg to 3.2 kg (depending on the diameter) hitting the pipes after falling from a height of 2 m. In this test, the pipes are turned after each impact so the complete surface is tested. The test is conducted according to the EN 744 standard.

### SN8 ring stiffness

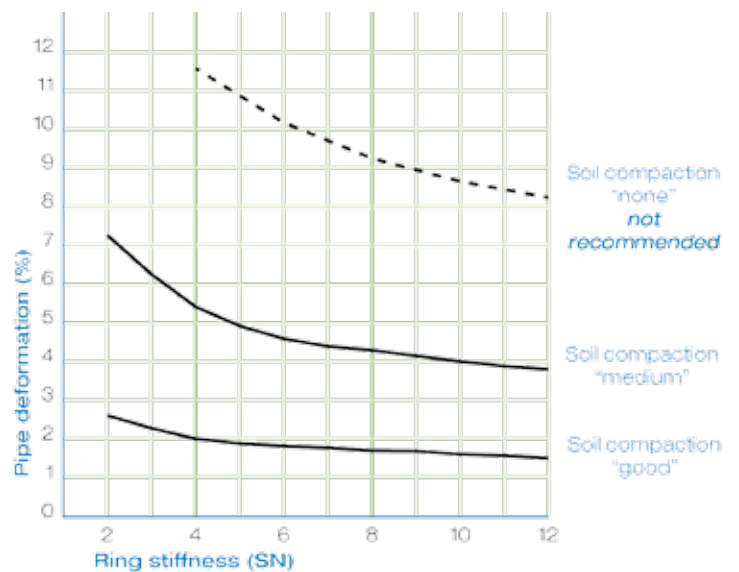
The ring stiffness indicates the weight per m<sup>2</sup> piping surface, whereby the pipe deforms to exactly 3% (of the diameter). The test was conducted according to the EN ISO 9969 standard. The result for Ultra Kyma is SN8, meaning: 8kNm = 816 kg/m<sup>2</sup>.

## Installation depth

The following deformation values apply when installing the piping:

Installation depth: 0.8 - 6.0 m

Load: also counted



### Ring flexibility 30%

In accordance with the requirements of EN13476-3, the ring flexibility amounts to 30%. This means that no damage originates when the piping is pressed in to 30% of the diameter. The Ultra Kyma can be applied in slightly inclined trenches because the flexible thermoplastic material can be slightly bent. The test is conducted according to EN 1446.

### Watertightness

The connecting piece with sealing ring was tested at a water pressure of 0.5 bar and an air pressure of -0.3 bar according to the requirements of EN 13476-3.


## Range summary


PP twin wall pipe SN8 black/grey DN	200, 250, 300, 400, 500, 600 and 800mm
Bend 15° SN8 black DN	200, 250, 300, 400, 500, 600 and 800mm
Bend 30° SN8 black DN	200, 250, 300, 400, 500, 600 and 800mm
Bend 45° SN8 black DN	200, 250, 300, 400, 500, 600 and 800mm
Bend 90° SN8 black DN	200, 250, 300, 400, 500, 600 and 800mm
T-piece 45° SN8 DN	200, 250, 300, 400, 500, 600 and 800mm
T-piece 90° SN8 DN	200, 250, 300, 400, 500, 600 and 800mm
Socket SN8 black DN	200, 250, 300, 400, 500, 600 and 800mm
Eccentric transition SN8 black DN	200-160, 250-160 and 250-200mm
Transition (PVC - PP DN)	160mm-300mm, 200mm-300mm, 200mm-400mm, 250mm-300mm, 250mm-400mm, 315mm-300mm, 315mm-400mm, 315mm-500mm, 400mm-400mm, 500mm-500mm, 400mm-600mm, 500mm-600mm, 630mm-600mm, 630mm-800mm
End cap SN8 black DN	200, 250, 300, 400, 500, 600 and 800mm
Cast in socket SN8 DN	200, 250, 300, 400, 500, 600 and 800mm
Inlet SN8	250mm-160mm, 300mm-160mm, 400mm-160mm, 500mm-160mm, 600mm-160mm, 800mm-160mm


## Making connections


- Check the pipes and sealing ring before installation activities for any damage due to transport or storage. The sealing ring is supplied separately packaged to avoid damage. Do not use damaged parts!
- Start the installation activities at the lowest point of the drainage system, so the pipe end with the sealing ring can be fitted in the direction of flow.
- Fit the sealing ring in the first groove of the pipe and check that the ring is fitted correctly.
- Carefully clean the parts to be connected and apply a lubricant to the connecting piece.
- Push the pipe parts into each other with a turning movement up to the mark. Do not apply excessive force to the parts.
- Pipes in smaller diameters can be simply installed manually. Tools are needed for the larger dimensions. The end of the pipes must be protected during the installation activities.



ULTRA KYMA PP Pipe SN8 1x socket Black L=6m		
	Diameter	Art. No.
	200mm	20049248
	250mm	20049249
	300mm	20042974
	400mm	20042975
	500mm	20042976
	600mm	20042977
	800mm	20042978

ULTRA KYMA Rubber sealingring Black		
	Diameter	Art. No.
	200mm	20049256
	250mm	20049257
	300mm	20042872
	400mm	20042873
	500mm	20042874
	600mm	20042547
	800mm	20042876

ULTRA KYMA PP Socket SN8 Black		
	Diameter	Art. No.
	200mm	20049252
	250mm	20049253
	300mm	20042867
	400mm	20042868
	500mm	20042869
	600mm	20042870
	800mm	20042871

Ultra Kyma PP Bend 15° SN8 Socket/ Spigot Black		
	Diameter	Art. No.
	200mm	20049764
	250mm	20049772
	300mm	20044110
	400mm	20044111
	500mm	20044112
	600mm	20044113
	800mm	20044114



## Ultra Kyma PP Bend 30° SN8 Socket/ Spigot Black



Diameter	Art. No.
200mm	20049765
250mm	20049773
300mm	20044115
400mm	20044116
500mm	20044117
600mm	20044118
800mm	20044119

## Ultra Kyma PP Bend 45° SN8 Socket/ Spigot Black



Diameter	Art. No.
200mm	20049766
250mm	20049774
300mm	20044120
400mm	20044121
500mm	20044122
600mm	20044123
800mm	20044124

## Ultra Kyma PP Bend 90° SN8 Socket/ Spigot Black



Diameter	Art. No.
200mm	20049767
250mm	20049775
300mm	20044125
400mm	20044126
500mm	20044127
600mm	20044128
800mm	20044129

## Ultra Kyma PP T 45° SN8 2Socket/ Spigot Black



Diameter	Art. No.
200mm	20049768
250mm	20049776
300mm	20044130
400mm	20044131
500mm	20044132
600mm	20044133
800mm	20044134

## Ultra Kyma PP T 90° SN8 2Socket/ Spigot Black



Diameter	Art. No.
200mm	20049769
250mm	20049777
300mm	20044135
400mm	20044136
500mm	20044137
600mm	20044138
800mm	20044139

## Ultra Kyma Exc. Transition PP SN8 Black




Diameter	Art. No.
200mm x 160mm	20049770
250mm x 160mm	20049779
250mm x 200mm	20049778

## Ultra Kyma Transition piece PP




Diameter	Art. No.
300mm x 160mm	20044165
300mm x 200mm	20044167
300mm x 250mm	20044169
300mm x 315mm	20044172
400mm x 200mm	20044168
400mm x 250mm	20044170
400mm x 315mm	20044173
400mm x 400mm	20047056
500mm x 315mm	20044174
500mm x 400mm	20044176
600mm x 400mm	20044177
600mm x 500mm	20044178
600mm x 630mm	20044179
800mm x 630mm	20044180


## Ultra Kyma End cap SN8 Black

	Diameter	Art. No.
	200mm	20049771
	250mm	20049782
	300mm	20044182
	400mm	20044183
	500mm	20044184
	600mm	20044185
	800mm	20044186

## Ultra Kyma Cast-in Socket sanded 1/2

	Diameter	Art. No.
	200mm	20049783
	250mm	20049784
	300mm	20044261
	400mm	20044262
	500mm	20044263
	600mm	20044264
	800mm	20044265

## ULTRA KYMA PP inlet SN8 1x socket

	Diameter	Art. No.
	250mm x 160mm	20049255
	300mm x 160mm	20046742
	400mm x 160mm	20046743
	500mm x 160mm	20046744
	600mm x 160mm	20046745
	800mm x 160mm	20046746



CERTIFICATE		<b>KOMO®</b> <b>product certificate</b> <b>K79659/05</b>	
	Issued <b>2019-03-01</b> Replaces <b>K79659/04</b>		
	Valid until <b>Indefinite</b> Dated <b>2017-01-01</b>		
	Page <b>1 of 2</b>		
<b>PP ribbed pipes for non-pressure underground sewerage</b>			
<b>Dyka B.V.</b>			
<b>STATEMENT BY KIWA</b> This product certificate is issued on the basis of BRL 9208-2 'Pipes and fittings with structured wall for non-pressure underground drainage and sewerage - Part 2 - Type B: PP, PE' dated 30 August 2017, conform the Kiwa-Regulations for Certification.			
The quality system and product characteristics in association with the PP ribbed pipes for non-pressure underground sewerage are assessed periodically.			
On this basis Kiwa declares that a justified confidence exists, that the PP ribbed pipes for non-pressure underground sewerage delivered by the certificate holder at delivery fulfil:			
- the technical specification laid down in this product certificate; - the product requirements as laid in the BRL,			
provided that the PP ribbed pipes for non-pressure underground sewerage have been marked with the KOMO®-mark in a manner as indicated in this product certificate;			
			
Ronald Karel Kiwa			
<small>The certificate is listed in the overview on the website of Stichting KOMO: <a href="http://www.komo.nl">www.komo.nl</a>.          Advice: consult <a href="http://www.kiwa.nl">www.kiwa.nl</a> in order to ensure that this certificate is still valid.</small>			
<b>Kiwa Nederland B.V.</b> <small>St. Willebrord Churchplein 273          Postbus 70          2280 AB RUSSELUK          The Netherlands          Tel. +31 88 998 44 00          Fax +31 88 998 44 20  <a href="mailto:info@kiwa.nl">info@kiwa.nl</a>  <a href="http://www.kiwa.nl">www.kiwa.nl</a> </small>	<b>Holder of Certificate</b> <b>Dyka B.V.</b> <small>Postbusweg 7          8331 LJ STEENWIJK          The Netherlands          Postbus 33          8330 AA STEENWIJK          Tel. +31 (0)521-534956          Fax +31 (0)521-534371  <a href="mailto:info@dyka.nl">info@dyka.nl</a>  <a href="http://www.dyka.nl">www.dyka.nl</a> </small>	<b>Production location</b> <b>Dyka Plastics</b> <small>Stuifzandstraat 47          Nolspark 4004          3900 Overpeet          Belgium          Tel. +32 (0)11600430          Fax +32 (0)11661280  <a href="http://www.bauelement.co.at">www.bauelement.co.at</a> </small>	<b>Production location</b> <b>Bauelement GmbH</b> <small>Gewerbestraße 2          4730 Wabernkirchen          Austria          Tel. +43 (0)72772598-36          Fax +43 (0)72772598-25  <a href="http://www.bauelement.co.at">www.bauelement.co.at</a> </small>
			
Evaluated is: quality system product Periodic inspection			

CERTIFICATE		<b>KOMO®</b> <b>product certificate</b> <b>K86623/04</b>	
	Issued <b>2018-01-01</b> Replaces <b>K86623/03</b>		
	Valid until <b>Indefinite</b> Dated <b>2017-02-01</b>		
	Page <b>1 of 3</b>		
<b>PP ribbed fittings for non-pressure underground sewerage</b>			
<b>Dyka B.V.</b>			
<b>STATEMENT BY KIWA</b> This product certificate is issued on the basis of BRL 9208-2 'Pipes and fittings with structured wall for non-pressure underground drainage and sewerage - Part 2 - Type B: PP, PE' dated 30 August 2017, conform the Kiwa-Regulations for Certification.			
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