

polyurethane cradle

model : UCHR
UCRS
UCAR



Configuration

GENERAL :

UNISON has complete capability to mold high density rigid urethane cradle in pipe size from 15A through 1500A.

We are able to vary our basic chemical formulas to produce the broadest range of urethane molded products specifically designed for the exacting requirements for cryogenic service.

Our customers are guaranteed rigid urethane cradle molded to the highest quality control standards and assembled into an insulated pipe support unit.

High density rigid urethane cradle possesses a unique cellular structure.

Due to the roundness of the cells as well as the heavy cell wall thickness, the compaction typical of some cellular foams under cryogenic temperatures are eliminated. Under cryogenic conditions the gas within the cells contracts, liquifies or solidifies while the cell walls maintain the integrity of support.

At cryogenic temperatures each cell develops a partial vacuum resulting in excellent insulating properties.

APPLICATION :

Nowadays, the highest degree of reliability is required in the field of pipe supporting system design for petrochemical plants including low and ultra-low temperature liquefied natural gas (LNG), liquefied petroleum gas (LPG), liquefied ethylene gas (LEG), liquefied nitrogen(LN₂) and liquefied oxygen(LO₂) are getting larger scale.

And we have developed high quality urethane cradle made of high density polyurethane foam which has low thermal conductivity.

Our products are already been used and well received in various LNG, LPG and other petrochemical plants.

Any types of pipe supporting urethane cradle to be used following customer's requirements, please contact UNISON.

PHYSICAL PROPERTIES :

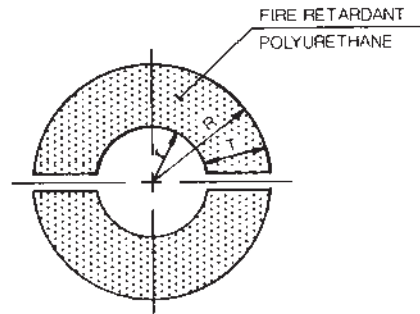
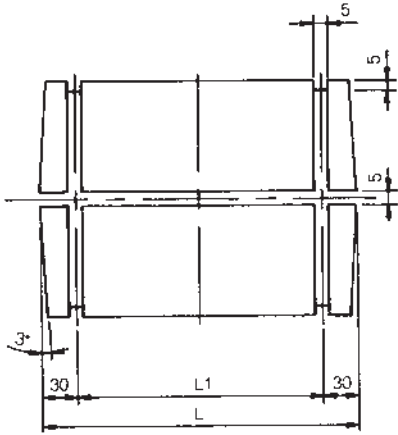
- Density : 500 kg/m³
- Compressive strength : higher than 170 kg/m²
- Bending strength : higher than 200 kg/cm²
- Thermal conductivity : less than 0.084 kcal/Mhr °C
- Coefficient of thermal contraction : 50×10^{-6}
- Flame spread : less than 25
- Closed cell content by volume : more than 90%
- Water absorption : less than 1 g/100cm²
- Working temperature range : -190 ~ +80°C

FEATURES :

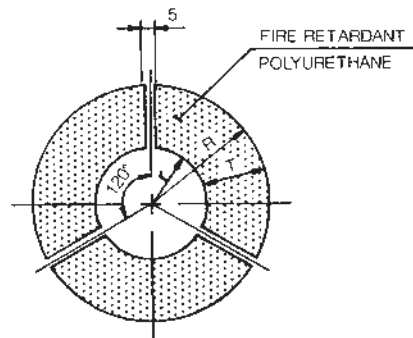
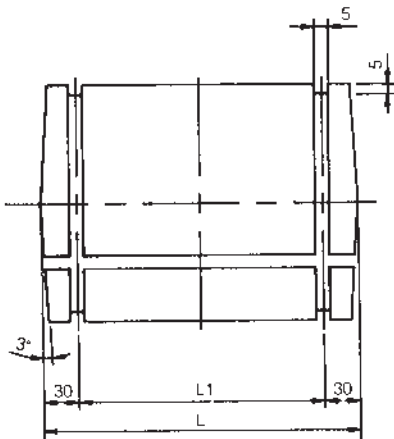
1. The density of polyurethane cradles can be depending on where they are to be used, thereby enabling you to obtain the cradle with strength most appropriate for your purpose.
2. Polyurethane cradle supports are light-weight compared with oakmade or FRP support.
3. Being highly reliable in water and resistant to oil and corrosion, they do not need any preservative treatment such as creosote impregnation.
4. Having high weather-tightness, they resist weathering and corrosion in long-term outdoor use.
5. they exceed in physical strength against compression, bending and shearing.
6. Polyurethane cradle supports are suitable for mass production as they are molded.
7. Forming incorporated with other material is possible.
8. Free of grains, homogenous and standard quality cradles can be obtained in large quantity at the same time.
9. Because of their low water absorption, they do not incur cracks from icing during storage or operation.
10. Polyurethane cradle supports are standardized in a variety of sizes and dimensions, thereby facilitating various pipe support designs and installation methods.
11. Also available from UNISON are special series products with enhanced heat and flame resistance.

polyurethane cradle
hanger type

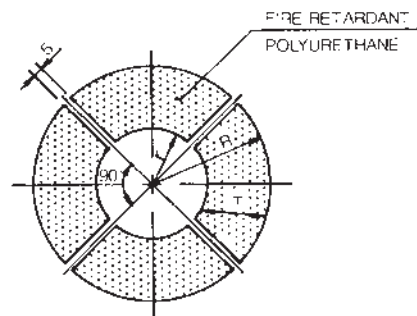
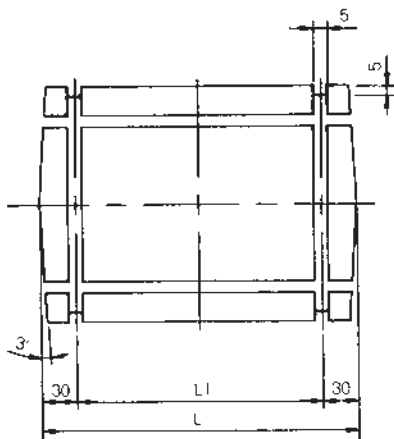
model : UCHR



4" & UNDER



5" - 24"



26" - 60"

polyurethane cradle
hanger type

model : UCHR

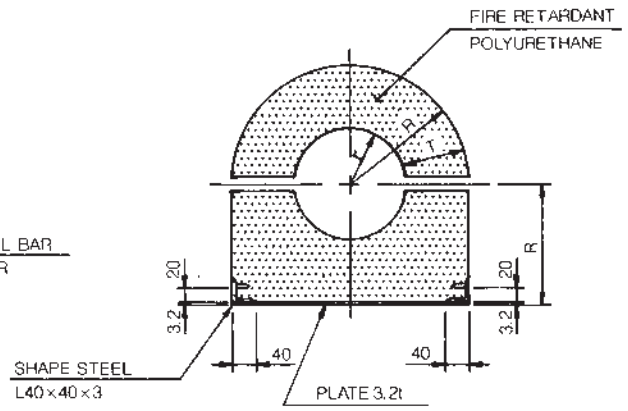
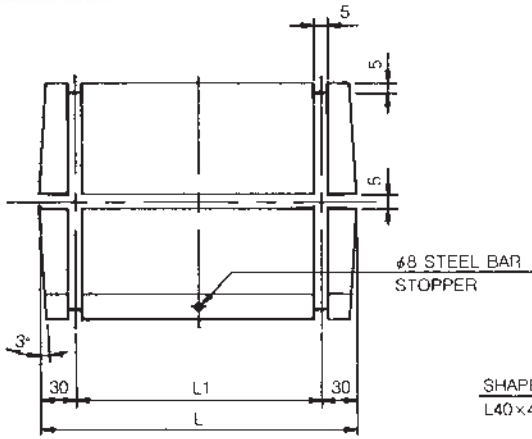
MATERIAL : High density polyurethane**ORDERING** : Specify model name, insulation thickness and nominal pipe size.
ex) UCHR-250A-100**SERVICE TEMPERATURE** : -190 ~ +80℃

dimensions(mm)

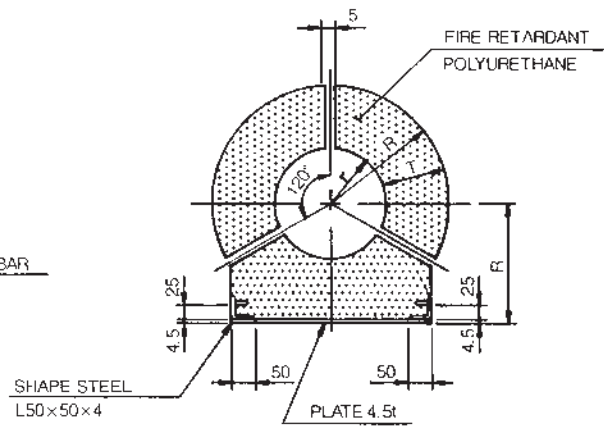
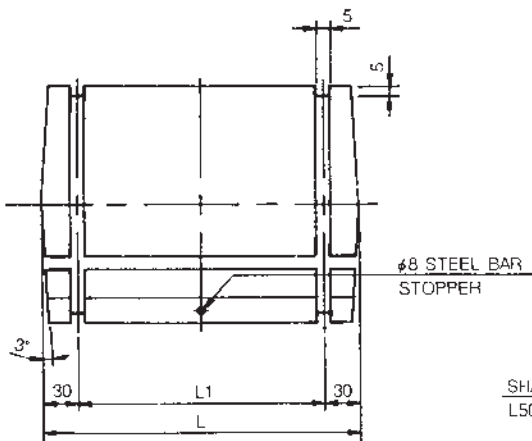
COLD INSULATION THICKNESS CRADLE THICKNESS				25~50	51~100	101~150	151~200	201~250	251~300
				T=50	T=100	T=150	T=200	T=250	T=300
pipe size	t	L	L1	R	R	R	R	R	R
15A(1/2B)	11	370	310	61	111	161	-	-	-
20A(3/4B)	14	370	310	64	114	164	-	-	-
25A(1B)	17	370	310	67	117	167	-	-	-
40A(1 1/2B)	25	370	310	75	125	175	225	-	-
50A(2B)	31	370	310	81	131	181	231	-	-
65A(2 1/2B)	37	370	310	87	137	187	237	-	-
80A(3B)	45	420	360	95	145	195	245	-	-
100A(4B)	58	420	360	108	158	208	258	-	-
125A(5B)	72	420	360	122	172	222	272	-	-
150A(6B)	85	420	360	135	185	235	285	-	-
200A(8B)	110	420	360	160	210	260	310	360	-
250A(10B)	137	420	360	187	237	287	337	387	-
300A(12B)	162	420	360	212	262	312	362	412	-
350A(14B)	178	420	360	228	278	328	378	428	-
400A(16B)	204	420	360	254	304	354	404	454	-
450A(18B)	229	420	360	279	329	379	429	479	-
500A(20B)	254	420	360	304	354	404	454	504	554
550A(22B)	280	420	360	330	380	430	480	530	580
600A(24B)	305	420	360	355	405	455	505	555	605
650A(26B)	331	420	360	381	431	481	531	581	631
700A(28B)	356	420	360	406	456	506	556	606	656
750A(30B)	381	420	360	431	481	531	581	631	681
800A(32B)	407	420	360	457	507	557	607	657	707
850A(34B)	432	420	360	482	532	582	632	682	732
900A(36B)	458	420	360	508	558	608	658	708	758
1000A(40B)	508	420	360	558	608	658	708	758	808
1050A(42B)	534	420	360	584	634	684	734	784	834
1100A(44B)	559	520	460	609	659	709	759	809	859
1200A(48B)	610	520	460	660	710	760	810	860	910
1300A(52B)	661	520	460	711	761	811	861	911	961
1350A(54B)	686	520	460	736	786	836	886	939	986
1500A(60B)	782	520	460	812	862	912	962	1012	1062

polyurethane cradle
resting type

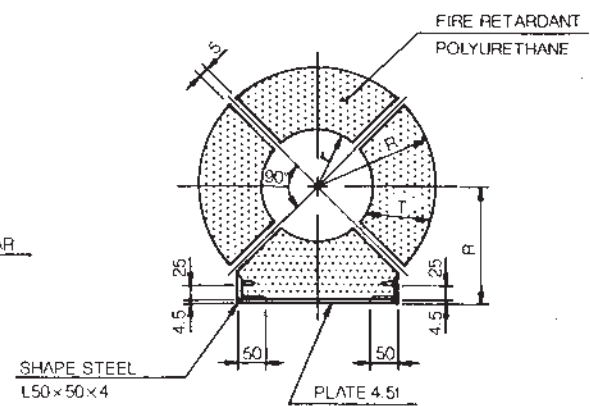
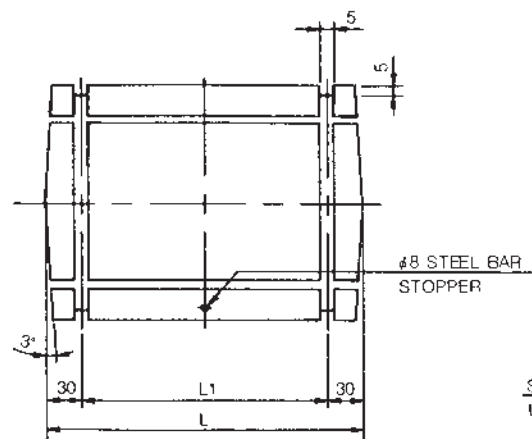
model : UCRS



4" & UNDER



5" - 24"



26" - 60"

polyurethane cradle
resting type

model : UCRS

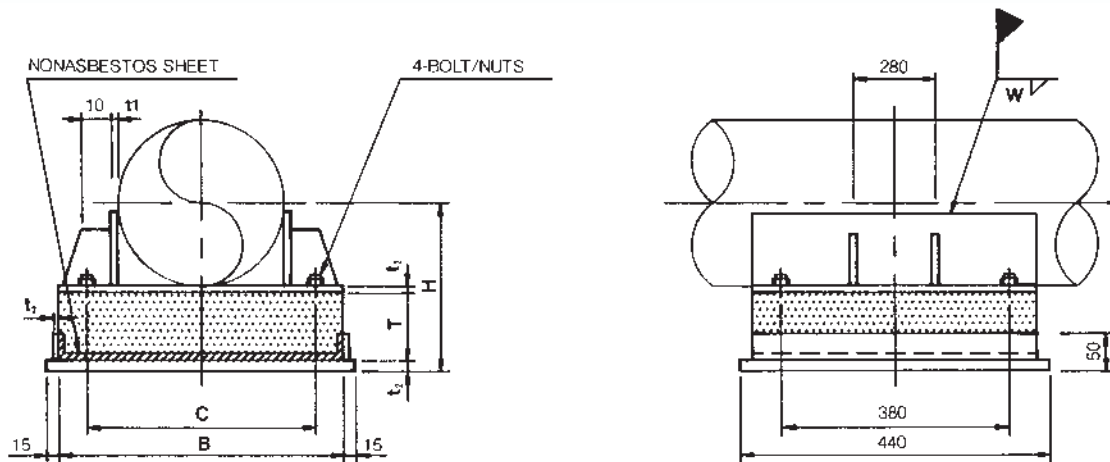
MATERIAL : High density polyurethane.**ORDERING** : Specify model name, insulation thickness and nominal pipe size.
ex) UCRS-250A-100**SERVICE TEMPERATURE** : -190 ~ +80℃

dimensions(mm)

COLD INSULATION THICKNESS CRADLE THICKNESS				25~50	51~100	101~150	151~200	201~250	251~300
				T=50	T=100	T=150	T=200	T=250	T=300
pipe size	t	L	L1	R	R	R	R	R	R
15A(1/2B)	11	370	310	61	111	161	-	-	-
20A(3/4B)	14	370	310	64	114	164	-	-	-
25A(1B)	17	370	310	67	117	167	-	-	-
40A(1 1/2B)	25	370	310	75	125	175	225	-	-
50A(2B)	31	370	310	81	131	181	231	-	-
65A(2 1/2B)	37	370	310	87	137	187	237	-	-
80A(3B)	45	420	360	95	145	195	245	-	-
100A(4B)	58	420	360	108	158	208	258	-	-
125A(5B)	72	420	360	122	172	222	272	-	-
150A(6B)	85	420	360	135	185	235	285	-	-
200A(8B)	110	420	360	160	210	260	310	360	-
250A(10B)	137	420	360	187	237	287	337	387	-
300A(12B)	162	420	360	212	262	312	312	412	-
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400A(16B)	204	420	360	254	304	354	404	454	-
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500A(20B)	254	420	360	304	354	404	454	504	554
550A(22B)	280	420	360	330	380	430	480	530	580
600A(24B)	305	420	360	355	405	455	505	555	605
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1100A(44B)	559	520	460	609	659	709	759	809	859
1200A(48B)	610	520	460	660	710	760	810	860	910
1300A(52B)	661	520	460	711	761	811	861	911	961
1350A(54B)	686	520	460	736	786	836	886	939	986
1500A(60B)	762	520	460	812	862	912	962	1012	1062

polyurethane cradle anchor type

model : UCAR



MATERIAL : High density polyurethane.

SERVICE TEMPERATURE : -190 ~ +80°C

ORDERING : Specify model name, insulation thickness and nominal pipe size.

ex) UCAR-250A-100

dimensions(mm)

pipe size	B	C	t1	t2	W	H					
						T=50	T=100	T=150	T=200	T=250	T=300
15A(1/2B)	100	65	4.5	6	4.5	61	111	161	-	-	-
20A(3/4B)	110	70	4.5	6	4.5	64	114	164	-	-	-
25A(1B)	115	75	4.5	6	4.5	67	117	167	-	-	-
40A(1 1/2B)	130	90	4.5	6	4.5	75	125	175	225	-	-
50A(2B)	140	100	4.5	6	4.5	81	131	181	231	-	-
65A(2 1/2B)	160	120	4.5	6	4.5	87	137	187	237	-	-
80A(3B)	190	140	4.5	6	4.5	95	145	195	245	-	-
100A(4B)	210	145	4.5	6	4.5	108	158	208	258	-	-
125A(5B)	240	190	4.5	6	4.5	122	172	222	272	-	-
150A(6B)	270	215	4.5	6	4.5	135	185	235	285	-	-
200A(8B)	320	265	6	9	4.5	160	210	260	310	360	-
250A(10B)	370	315	6	9	4.5	187	237	287	337	387	-
300A(12B)	425	370	6	9	4.5	212	262	312	362	412	-
350A(14B)	480	405	6	9	4.5	228	278	328	378	428	-
400A(16B)	530	455	6	9	4.5	254	304	354	404	454	-
450A(18B)	570	505	6	9	4.5	279	329	379	429	479	-
500A(20B)	630	555	6	9	4.5	304	354	404	454	504	554
550A(22B)	680	610	6	9	4.5	330	380	430	480	530	580
600A(24B)	740	660	6	9	4.5	355	405	455	505	555	605
650A(26B)	810	725	9	12	6	381	431	481	531	581	631
700A(28B)	860	775	9	12	6	406	456	506	556	606	656
750A(30B)	940	815	9	12	6	431	481	531	581	631	681
800A(32B)	970	880	9	12	6	457	507	557	607	657	707
850A(34B)	1020	930	9	12	6	482	532	582	632	682	732
900A(36B)	1070	980	9	12	6	508	558	608	658	708	758
1000A(40B)	1180	1090	9	12	6	558	608	658	708	758	808
1050A(42B)	1220	1150	9	12	6	584	634	684	734	784	834
1100A(44B)	1295	1200	9	12	6	609	659	709	759	809	859
1200A(48B)	1390	1250	9	12	6	660	710	760	810	860	910
1300A(52B)	1470	1300	9	12	6	711	761	811	861	911	961
1350A(54B)	1560	1455	9	12	6	736	786	836	886	936	986
1500A(60B)	1720	1605	9	12	6	812	862	912	962	1012	1062