

Super•Cor®



bigrbridge.com

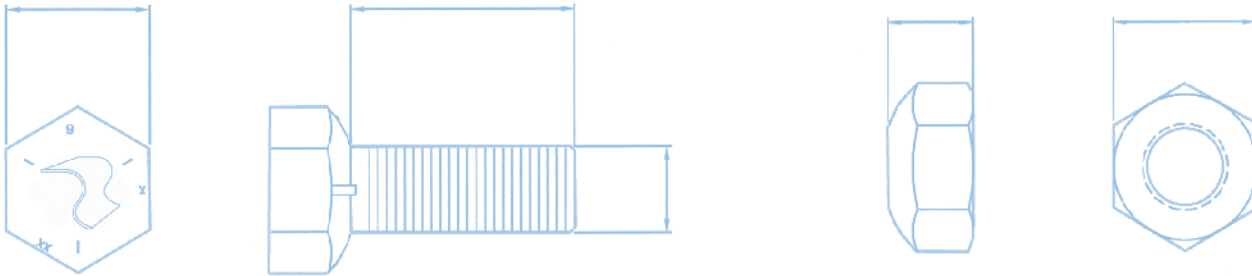


BIG R
BRIDGE





BIG R
BRIDGE



The Right Bridge. Built Right.

The Right Solution for Any Job.

When it comes to infrastructure projects, Big R Bridge is the design specialist with a proven reputation for consistently delivering the right solutions, the right quality and the right support throughout America. We know that high-quality products, engineering excellence and innovative, proprietary designs – not to mention exemplary customer service – are key to a successful business relationship.

The Right Choice.

From our modern production facilities in Greeley, Colorado and Fort Worth, Texas, along with those of our partners in the AIL Group of Companies around the world, we design and manufacture attractive and economical infrastructure solutions in a variety of sizes and types, ranging from culverts and tunnels to bridges, underpasses and stream enclosures. Give us your application and Big R technical representatives will work hard with your team to find the right solution that best suits your needs.

The Right Quality.

Although we make a wide variety of products, they all share common attributes. Better looks. Better quality. Better performance. Period. Better still, we readily provide on-site assistance when needed and your order will be delivered to the job site on time, and ready to assemble. Simply put, you're always going to get Big R's best and that's a promise.

Super•Cor®

As Big R's revolutionary alternative to conventional bridges, Super•Cor represents our commitment to continued development in the field of corrugated metal structures.

Combining the advantages of lightweight construction with the superior strength and durability of galvanized steel, Super•Cor is the most internationally accepted, and widely used corrugation profile on the market.

The sensible, economical choice for:

- Vehicle underpasses
- Bridges
- Railway underpasses
- Box culverts
- Underground storage
- Stream enclosures/crossings
- Storage magazines
- Wildlife underpasses/overpasses
- Mine portals

Superior Strength. Lightweight Construction.

Super•Cor's larger annular corrugations (381mm [15"] pitch and 140mm [5.5"] depth) provide nine times the stiffness of conventional structural plate. The lightweight, modular panels can be shipped easily and economically making it even more advantageous for remote locations.

Easy Installation

Simply put, Super•Cor saves time and money in installation. The panels require significantly fewer bolts than conventional structural plates and can be assembled adjacent to the job site, then moved into place using relatively light equipment. And, if the road needs to be widened later, Super•Cor allows for easy extension with additional panels.



Strong • Durable • Versatile

Versatile

Super•Cor's corrugation profile permits construction of the largest, longest and widest spans in a variety of configurations. Spans can exceed 25m (82') with Big R's proprietary features. Special shapes are also available, including Super•Cor reinforced box culverts in spans exceeding 15m (50') with cover as shallow as 450mm (18").

Durable

Super•Cor's heavy galvanized coating is metallurgically-bonded to the steel surface, providing extended service life. Super•Cor is supplied with a standard 910g/m² (3oz/ft²) coating. A heavier 1220g/m² (4 oz/ft²) coating is also available. Properly designed and installed, Super•Cor structures will last over 100 years.

Environmentally-Responsible

Most Super•Cor structures used for stream crossings are bottomless. These structure types, combined with lower-impact installation methods, virtually eliminate deliberate streambed interference.

Maintenance-Free

Unlike conventional bridges, which frequently require substantial retrofits, properly-installed Super•Cor structures are relatively maintenance-free.

Aesthetically-Pleasing

Once installed, Super•Cor becomes a naturally-appealing structure. The geometry of the corrugations both softens and reduces the intrusiveness traditionally associated with man-made structures in natural environments.

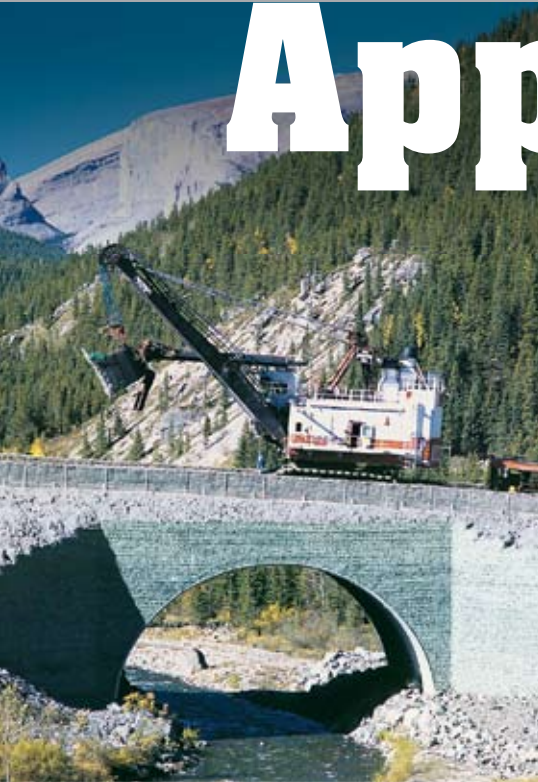
▼ IDEAL FOR REMOTE LOCATIONS

Mining companies take advantage of our technology to build some of the largest and most economical bridges in remote locations, such as this one in Australia.



Ideal for many

Applications



BIG ON MINING: The world's largest engineered corrugated arch helps preserve Whitehorse Creek, Alberta.

Mine Site Infrastructure

With achievable span widths of over 25m (82'), many of the world's largest mine sites use innovative Super•Cor for its light weight, superior strength, versatility, ease of installation and environmental friendliness. Super•Cor is perfect for use in many types of large-scale engineered structures, such as:

- Heavy haul road arches
- Rail underpasses
- Portals
- Stockpile tunnels
- Escape tunnels

EMERGENCY MEASURES: Super•Cor® saved time and money when a bridge washed out under Toronto, Ontario's busy Finch Avenue.

Affordable Bridge Replacement

Replacing aging bridges presents unique challenges to traffic management and infrastructure budgets alike. Progressive engineers and specifiers are turning to Super•Cor for its ease of installation and sheer economics. Super•Cor's variety of shapes and profiles, along with its environmental friendliness, make it perfect for:

- Short and Medium Span Bridges
- Box Culverts
- Vehicle and Railway Underpasses
- Stream Enclosures/Crossings
- Grade Separations

SAFER FOR EVERYONE: Deer stroll across a newly-installed animal crossing in Poland.

Animal-Friendly Crossings

On today's high-speed highways, motorists and wildlife can often find themselves on opposite sides of sudden and devastating encounters. The one thing they agree on, however, is that safety crossings made from Super•Cor provide low-cost, aesthetically pleasing and effective solutions for increased highway safety. Super•Cor is ideal for animal-friendly crossings like:

- Highway overpasses and underpasses
- Railway overpasses and underpasses

Super•Cor is the logical choice.

Super•Cor structures are manufactured and designed in accordance with AASHTO requirements.

Durability

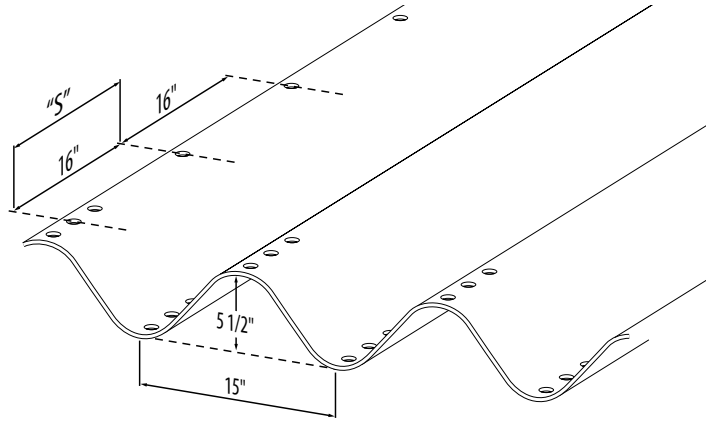
Properly designed structures will last 100-plus years.

Handling

Lightweight sections are economical to ship, and easily handled by light equipment.

Cost

Low installation and maintenance over the life cycle of the structure makes Super•Cor the economical choice.



SPECIFICATIONS

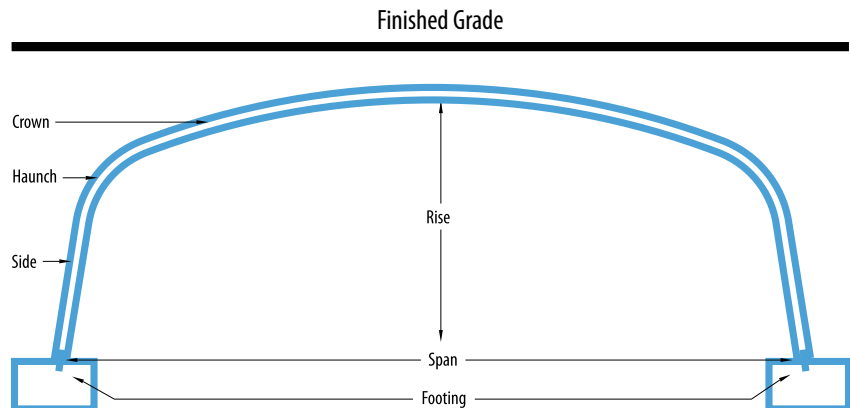
Wall Thickness				Tangent										
Specified		Uncoated (T)		Area		Length (TL)		Angle(Δ)	Moment of Inertia		Section Modulus		Radius of Gyration	
(mm)	(in.)	(mm)	(in.)	(mm ² /mm)	(in ² ./ft)	(mm)	(in.)	(degrees)	(mm ⁴ /mm)	(in ⁴ ./in.)	(mm ³ /mm)	(in ³ ./in)	(mm)	(in.)
3.5	0.140	3.42	0.135	4.784	2.260	110.8	4.361	49.75	11710.7	0.714	152.72	0.2367	49.48	1.948
4.2	0.170	4.18	0.165	5.846	2.762	109.8	4.323	49.89	14332.5	0.875	186.05	0.2884	49.52	1.949
4.8	0.188	4.67	0.184	6.536	3.088	109.2	4.299	49.99	16037.0	0.979	207.54	0.3217	49.54	1.950
5.5	0.218	5.45	0.215	7.628	3.604	108.2	4.259	50.13	18740.1	1.144	241.38	0.3741	49.57	1.952
6.3	0.249	6.23	0.245	8.716	4.118	107.2	4.220	50.28	21441.2	1.308	274.87	0.4260	49.60	1.943
7.1	0.280	7.01	0.276	9.807	4.633	106.1	4.179	50.43	24124.5	1.472	308.24	0.4776	49.64	1.954
8.1	0.319	8.00	0.315	11.06	5.225	104.9	4.131	50.62	27259.0	1.663	347.00	0.5380	49.65	1.955

Corrugation Profile: 381 mm x 140 mm (15 in. x 5.5 in.)

Structural Cross Section

Recommended Height of Cover

Limits: Minimum – 18"
Maximum – 5'



FOOTER OPTIONS

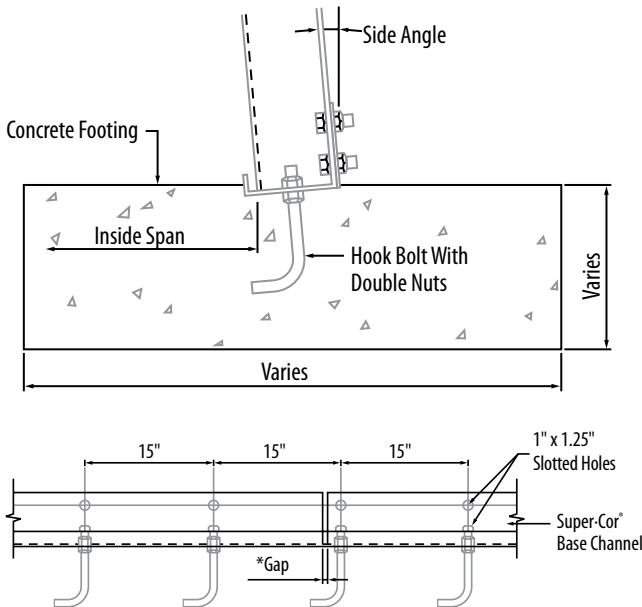
Super•Cor packages come with a variety of footer options to suit various sites:

- Precast or cast-in-place concrete footings – the most common footer type, in which a receiving angle is embedded in concrete.
- Steel footer pads – used as a time-saving alternative to concrete in sites with non-erodible stream beds. If the site permits, footings should be buried a minimum of

600mm (24") below flow line. Note: When footer pads are buried, the published end area of Super•Cor will be reduced.

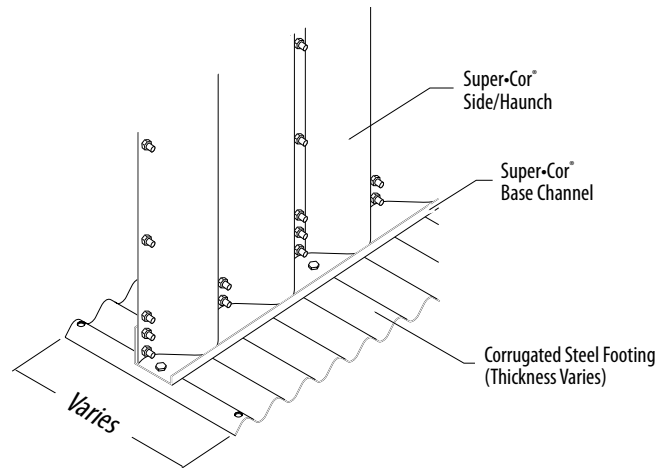
- Full steel invert – for applications in erodible stream beds requiring a corrugated steel floor or invert. To prevent undermining of the invert, we recommend the use of an optional toewall for the upstream and downstream ends.

Concrete Footing



*Note: Space base channel so that 15" c/c spacing of slotted holes in long leg is maintained

Corrugated Steel Footing



HEADWALL OPTIONS

In addition to enhancing their appearance, well-designed end treatments are essential to the structural and hydraulic performance of Super•Cor.

Headwall options include:

- MSE wall systems with welded wire walls or concrete faces
- Concrete, cast-in-place or precast
- Welded wire gabion baskets
- Bolt-A-Bin® retaining wall systems
- Sheet Pile walls



Super•Cor® Box

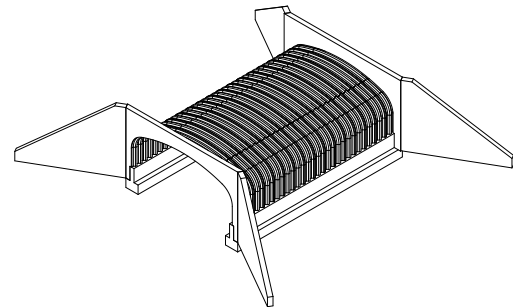
Super•Cor Boxes offer the perfect solution for long-span, low-rise situations with shallow cover.

Super•Cor Boxes combine the strength and cost advantages of Super•Cor corrugation profile with a special, patented reinforcement along the length of the structure. The extra strength of this reinforcement permits designs exceeding 15m (50').



Your complete solution.

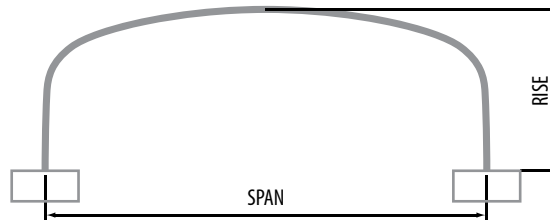
From preliminary specifications and drawings through to project completion, Big R is your single source for a comprehensive engineered package including the structure, footings, headwalls, wingwalls, fascia finishes and guiderail systems.



▼ **LOOKING GOOD:** As shown here and opposite, Super•Cor can be customized with many types of functional and attractive end treatments.



Super-Cor® Box



Box Culvert

Box Details

No.	Span		Rise		End Area		No.	Span		Rise		End Area	
	(mm)	(ft.-in.)	(mm)	(ft.-in.)	(m ²)	(ft. ²)		(mm)	(ft.-in.)	(mm)	(ft.-in.)	(m ²)	(ft. ²)
SC-1B	3170	10-5	1180	3-10	3.12	33.57	SC-33B	7405	24-3	1680	5-6	10.21	109.86
SC-2B	3550	11-8	1420	4-8	4.33	46.59	SC-34B	7800	25-7	1965	6-5	12.71	136.76
SC-3B	3840	12-7	1465	4-10	4.94	53.15	SC-35B	7945	26-1	2370	7-9	15.87	170.76
SC-4B	3965	13-0	2210	7-3	7.35	79.09	SC-36B	8575	28-2	1920	6-4	13.90	149.56
SC-5B	3865	12-8	1260	4-2	4.18	44.98	SC-37B	8605	28-3	2325	7-8	17.38	187.01
SC-6B	4105	13-6	1860	6-1	6.56	70.59	SC-38B	8635	28-4	2735	9-0	20.89	224.78
SC-7B	4210	13-10	1310	4-4	4.76	51.22	SC-39B	9145	30-0	1940	6-4	14.64	157.53
SC-8B	4735	15-6	1960	6-5	8.16	87.80	SC-40B	9225	30-3	2345	7-8	18.35	197.45
SC-9B	4550	14-11	1360	4-5	5.36	57.67	SC-41B	9310	30-6	2750	9-0	22.10	237.80
SC-10B	4890	16-0	1610	5-3	6.97	75.00	SC-42B	9810	32-2	2105	6-11	16.92	182.06
SC-11B	4860	15-11	2365	7-8	10.09	108.57	SC-43B	9865	32-4	2510	8-3	20.90	224.88
SC-12B	5155	16-11	2420	7-11	11.06	119.01	SC-44B	9920	32-6	2920	9-7	24.92	268.14
SC-13B	5215	17-1	1670	5-6	7.72	83.07	SC-45B	10460	34-4	2285	7-6	19.43	209.07
SC-14B	5360	17-7	2075	6-10	9.89	106.42	SC-46B	10485	34-5	2690	8-10	23.68	254.80
SC-15B	5320	17-5	1440	4-9	6.62	71.23	SC-47B	10515	34-6	3100	10-2	27.95	300.74
SC-16B	5445	17-10	2480	8-2	12.07	129.87	SC-48B	10895	35-9	2355	7-9	20.59	221.55
SC-17B	5655	18-6	1505	4-11	7.33	78.87	SC-49B	10940	35-10	2760	9-1	25.02	269.22
SC-18B	5955	19-6	2645	8-8	14.23	153.11	SC-50B	10990	36-1	3165	10-5	29.47	317.10
SC-19B	5895	19-4	1595	5-3	8.17	87.91	SC-51B	11645	38-2	2530	8-4	23.31	250.82
SC-20B	6165	20-3	1900	6-3	10.33	111.15	SC-52B	11700	38-5	2935	9-8	28.04	301.71
SC-21B	6235	20-6	2715	8-11	15.36	165.27	SC-53B	11750	38-6	3345	11-0	32.81	353.04
SC-22B	6320	20-9	1645	5-5	8.91	95.87	SC-54B	12270	40-3	2745	9-0	26.46	284.71
SC-23B	6480	21-3	1975	6-6	11.25	121.05	SC-55B	12290	40-4	3150	10-4	31.45	338.40
SC-24B	6495	21-4	2380	7-10	13.89	149.46	SC-56B	12315	40-5	3555	11-8	36.45	392.20
SC-25B	6645	21-10	1720	5-8	9.77	105.13	SC-57B	13028	42-9	2830	9-3	30.72	330.55
SC-26B	6970	22-10	1795	5-11	10.67	114.81	SC-58B	13050	42-10	3236	10-7	36.02	387.58
SC-27B	7000	23-0	2200	7-2	13.50	145.26	SC-59B	14092	46-3	3071	10-0	35.61	383.16
SC-28B	7025	23-1	2610	8-7	16.35	175.93	SC-60B	14111	46-4	3477	11-5	41.34	444.82
SC-29B	7290	23-11	1875	6-2	11.62	125.03	SC-61B	15020	49-3	3168	10-5	38.38	412.97
SC-30B	7300	23-11	2285	7-6	14.58	156.88	SC-62B	15038	49-4	3574	11-9	44.48	478.60
SC-31B	7310	24-0	2690	8-10	17.56	188.95	SC-63B	15579	51-1	3845	12-7	49.46	532.19
SC-32B	7315	24-0	3095	10-2	20.52	220.80	SC-64B	15748	51-8	3994	13-1	52.12	560.81

Larger sizes and other shapes available upon request. Measurements are to inside crest of corrugation.

Super•Cor[®] Arch

Super•Cor Arches surpass the range of conventional plate arches with spans exceeding 25m (82 ft). They can be installed with minimal environmental impact.

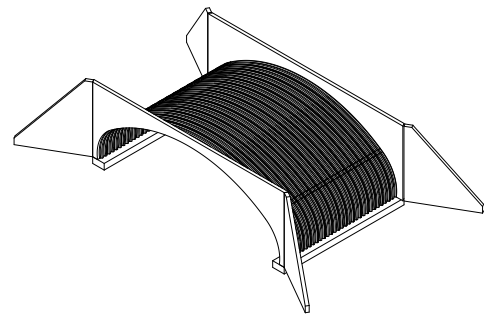
High-profile Super•Cor arches are ideal for highway grade separations or in applications requiring large end areas or wider spans.

SAVE TIME AND MONEY: Super•Cor structures erect quickly with less labour and transportation costs. In some cases, vital 24-hour traffic is not even interrupted.



Your complete solution.

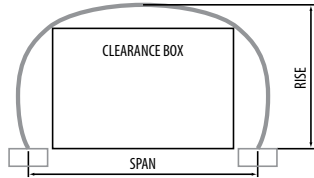
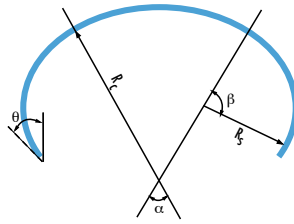
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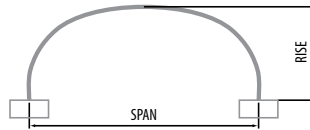
Super-Cor® Arch

Arch Details

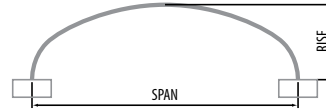
Typical Arch Profile



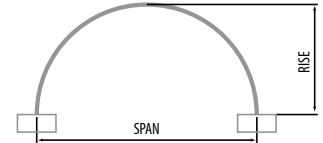
High Profile Arch



Medium Profile Arch



Low Profile Arch



Standard Arch

Arch No.	Max. Span (mm) (ft.-in.)	Bottom Span (mm) (ft.-in.)	Total Rise (mm) (ft.-in.)	End Area (m ²) (ft. ²)	Total S	Arch No.	Max. Span (mm) (ft.-in.)	Bottom Span (mm) (ft.-in.)	Total Rise (mm) (ft.-in.)	End Area (m ²) (ft. ²)	Total S
SCA1	6990 22-11	6990 22-11	3495 11-5	19.20 207	27	SCA40	13500 44-3	13479 44-3	4612 15-2	50.12 540	45
SCA2	7250 23-9	7250 23-9	3625 11-11	20.60 222	28	SCA41	13980 45-10	13980 45-10	6985 29-11	76.70 826	54
SCA3	7510 24-8	7510 24-8	3755 12-4	22.10 238	29	SCA42	14000 45-11	13958 45-10	4877 16-0	54.88 591	47
SCA4	7640 25-1	7640 25-1	3820 12-6	23.70 255	30	SCA43	14000 45-11	13872 45-6	6543 21-6	75.91 817	54
SCA5	8000 26-3	7994 26-3	3594 11-9	23.53 253	30	SCA44	14000 45-11	13641 44-9	7009 23-0	83.57 900	57
SCA6	8030 26-4	8030 26-4	4015 13-2	25.30 272	31	SCA45	14500 47-7	14433 47-4	5150 16-11	59.87 644	49
SCA7	8290 27-2	8290 27-2	4140 13-7	27.00 290	32	SCA46	15000 49-3	14960 49-1	5232 17-2	62.15 669	50
SCA8	8550 28-1	8550 28-1	4270 14-0	28.70 308	33	SCA47	15000 49-3	14780 48-6	7022 23-0	87.32 940	58
SCA9	8800 28-10	8800 28-10	4400 14-5	30.40 327	34	SCA48	15000 49-3	14663 48-1	7351 24-1	92.90 1000	60
SCA10	9000 29-6	8983 29-6	3760 12-4	28.15 303	33	SCA49	15010 49-3	15010 49-3	7505 24-11	88.50 952	58
SCA11	9000 29-6	8724 28-7	5168 16-11	40.67 438	40	SCA50	15500 50-10	15441 50-8	5520 18-1	67.55 727	52
SCA12	9060 29-9	9060 29-9	4530 14-10	32.20 347	35	SCA51	15530 50-11	15530 50-11	7765 25-6	94.70 1019	60
SCA13	9320 30-7	9320 30-7	4660 15-3	34.10 367	36	SCA52	16000 52-6	15942 52-4	4922 16-2	64.47 694	52
SCA14	9500 31-2	9456 31-0	3956 13-0	31.54 340	35	SCA53	16000 52-6	15870 52-1	6666 21-10	89.41 962	59
SCA15	9580 31-5	9580 31-5	4790 15-9	36.00 388	37	SCA54	16000 52-6	15543 51-0	7982 26-2	111.11 1196	66
SCA16	9840 32-3	9840 32-3	4920 16-2	38.00 409	38	SCA55	16050 52-8	16050 52-8	8025 26-4	101.10 1088	62
SCA17	10000 32-10	9967 32-8	3961 13-0	33.14 357	36	SCA56	16500 54-2	16406 53-10	5168 16-11	69.78 751	54
SCA18	10000 32-10	9740 31-11	4547 14-11	38.93 419	39	SCA57	16570 54-8	16570 54-8	8280 27-2	107.70 1160	64
SCA19	10000 32-10	9690 31-9	5371 17-7	47.06 507	43	SCA58	17000 55-9	16930 55-7	5224 17-2	72.02 775	55
SCA20	10100 33-2	10100 33-2	5045 16-6	40.00 431	39	SCA59	17000 55-9	16909 55-6	6720 22-1	94.96 1022	61
SCA21	10360 34-0	10360 34-0	5175 17-0	42.10 453	40	SCA60	17000 55-9	16478 54-0	8483 27-10	124.98 1345	70
SCA22	10500 34-5	10476 34-4	3974 13-9	34.75 374	37	SCA61	17220 56-6	17220 56-6	8610 28-4	114.60 1233	66
SCA23	10870 35-8	10870 35-8	5435 17-10	46.40 500	42	SCA62	17500 57-5	17451 57-3	5285 17-4	74.29 800	56
SCA24	11000 36-1	10947 35-11	4193 13-9	38.53 415	39	SCA63	17600 57-8	17600 57-8	8800 28-10	121.60 1309	68
SCA25	11000 36-1	10697 35-1	4776 15-8	44.86 483	42	SCA64	18000 59-1	17921 58-10	5547 18-2	80.14 863	58
SCA26	11000 36-1	10642 35-3	5864 19-3	56.27 606	47	SCA65	18000 59-1	17886 58-8	6999 23-0	104.17 1121	64
SCA27	11390 37-4	11390 37-4	5695 18-8	50.90 548	44	SCA66	18110 59-5	18110 59-5	9068 29-9	128.90 1387	70
SCA28	11500 37-9	11462 37-7	4221 13-10	40.26 433	40	SCA67	18500 60-8	18447 60-6	5617 18-5	82.59 889	59
SCA29	11910 39-1	11910 39-1	5955 19-6	55.70 599	46	SCA68	19000 62-4	18912 62-1	5889 19-4	88.82 956	61
SCA30	12000 39-4	11974 39-3	4259 14-0	42.02 452	41	SCA69	19000 62-4	18926 62-1	7099 23-3	110.10 1185	66
SCA31	12000 39-4	11781 38-8	5639 18-6	57.10 615	47	SCA70	19150 62-10	19150 62-10	9576 31-5	155.81 1550	74
SCA32	12000 39-4	11612 38-0	6113 20-0	63.68 685	50	SCA71	19500 64-0	19448 63-10	5968 19-7	91.46 984	62
SCA33	12430 40-9	12430 40-9	6210 20-4	60.60 652	48	SCA74	20190 66-3	20190 66-3	10083 33-1	160.00 1722	78
SCA34	12500 41-0	12447 40-10	4501 14-9	46.26 498	43	SCA76	20700 67-11	20700 67-11	10360 34-0	168.30 1812	80
SCA35	12940 42-6	12940 42-6	6470 21-3	65.80 708	50	SCA78	21210 69-7	21210 69-7	10620 34-10	176.80 1903	82
SCA36	13000 42-8	12964 42-6	4553 14-11	48.18 519	44	SCA82	22250 73-0	22250 73-0	11125 36-6	194.50 2094	86
SCA37	13000 42-8	12745 41-10	5890 19-4	64.39 693	50	SCA86	22760 74-8	22760 74-8	11380 37-4	203.60 2192	88
SCA38	13000 42-8	12662 41-6	6460 21-2	72.07 776	53	SCA90	24000 78-9	24000 78-9	12040 39-6	227.40 2448	93
SCA39	13460 44-2	13460 44-2	6730 22-1	71.10 765	52	SCA94	25000 82-0	25000 82-0	12500 41-0	245.40 2642	96

Note: All dimensions are to inside crest of steel. 114mm (4.5") edge distance of steel is included in side arc length and angle. **Structure numbers in bold denotes single radius arch.** Other sizes and plate configurations are available upon request.

Super•Cor® Round

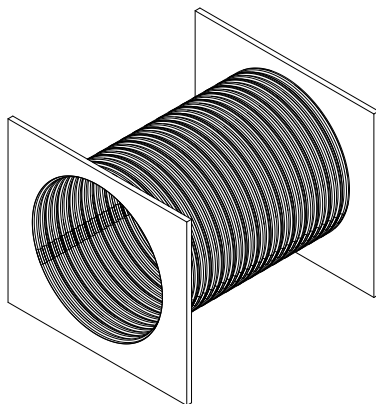
Super•Cor Round structures permit construction of dramatically larger diameters than was previously possible with conventional structural plate pipe configurations.



Super•Cor is the obvious choice for remote locations where concrete is more expensive or just not accessible as well as areas with poor foundations. This common and very versatile shape is frequently chosen for culverts, sewers and sub-drains, but it can also be used for storage bins, access ways, tunnels, bridges, and storm water retention/detention systems.

◀ **THE STRONGEST:** In mine sites around the world, Super•Cor is used under huge stock piles.

Round Details



*S = 406mm (16") measured along the circumference.

**Other sizes available upon request.

Measurements are to inside crest of corrugation.

Pipe No.	Diameter (mm)	End Area (ft.-in.)	Total (mm ²)	(ft. ²)	S*
SC66R	8400	27-7	55.4	596	66
SC68R	8650	28-5	58.7	632	68
SC70R	8910	29-2	62.3	671	70
SC72R	9170	30-1	66.0	710	72
SC74R	9430	30-11	69.8	751	74
SC76R	9690	31-10	73.7	793	76
SC78R	9950	32-7	77.7	836	78
SC80R	10200	33-6	81.7	879	80
SC82R	10460	34-4	85.9	925	82
SC84R	10720	35-2	90.2	971	84
SC86R	10980	36-0	94.6	1018	86
SC88R	11240	36-11	99.2	1068	88
SC90R	11500	37-8	103.8	1117	90
SC94R	12020	39-5	113.4	1221	94
SC98R	12530	41-1	123.3	1327	98
SC102R	13050	42-10	133.7	1439	102
SC106R	13570	44-6	144.6	1556	106
SC110R	14080	46-2	155.7	1676	110
SC114R	14600	47-11	167.4	1802	114
SC118R	15120	49-7	179.5	1932	118
SC122R	15640	51-4	192.1	2068	122



We support all of our products with professional engineering, project consultation, innovative solutions and installation expertise. In short, we're always ready to provide assistance and recommendations for any project using Big R products.

Design and Installation

Big R's reputation for excellence extends well beyond developing innovative, superior steel products.



Installation

Super•Cor® structures distribute superimposed loads to the surrounding 'engineered' backfill, so it is essential to use care during installation and backfilling to ensure proper performance. The following guidelines will help ensure a successful project.

Excavation

Trench excavation will vary, depending on the nature of the in situ material. It is necessary to provide an excavated area that ensures adequate distance from soils with questionable structural integrity. If the native soil is stable, excavate only that area required to provide minimum bedding and enough room for compaction equipment to manoeuvre. For stream crossing applications, local authorities will impose guidelines for construction activity.

Foundations

Super•Cor structures are flexible and can accommodate some differential settlement without distress. It is important, nevertheless, to minimize differential settlement by removing and replacing poor foundation material, or by using a pile foundation. Preparation should be confined to minimum, but practical, widths and should result in a uniform base for the structure. A bedding of loose material will provide a slight cushion and the bedding may be flat or shaped, depending on the structure configuration and construction methods being used. It is essential that all corrugations be filled.

Assembly

A Super•Cor structure arrives at the job site in bundles curved to the proper radius. Included are bolts and any other special hardware that may be required, instructions and a diagram listing all components. Assembly is easy, requiring relatively simple tools. Correct lapping, bolt-tightening and shape-monitoring are all important to achieve the correct design dimensions. Your Big R representative can provide information and assistance to those unfamiliar with structural plate assembly.

Backfill

Super•Cor structures require a stable, engineered backfill to retain their shape and structural integrity. The quality of the backfill envelope depends on the choice of material, placement of backfill, and compaction of the envelope. Local engineering departments normally have specifications detailing suitable backfill material for flexible structures. However, there is no substitute for an examination by a geotechnical engineer. A well-graded, free-draining granular backfill is preferred.

Inspection

Inspection should be performed on a full-time basis by qualified personnel. Backfill is placed in a balanced manner in 150mm (6") to 200mm (8") lifts for the entire backfill envelope. Compaction testing is required to ensure that backfill material is compacted to a minimum of 95% Standard Proctor Density. It is a good idea to assess the compaction equipment and have its use approved by the geotechnical engineer or qualified inspector.

End Finishes

Special attention must be paid to beveled or skewed ends. Incomplete structural rings must be reinforced with steel or concrete (or tied back) to maintain structural integrity. Exercise caution when placing backfill around them to avoid distortion.

Standard End Finishes are:

- Squared
- Beveled
- Partially-beveled
- Skewed

The NCSPA handbook provides a new, detailed section on backfilling and the hydraulics of various steel structures. Your Big R representative can provide you with a copy of the handbook.

PRODUCTS AND SERVICES

- Corrugated Steel Pipe
- Corrugated Steel Pipe Arch
- SuperCor® Plate Bridges
- Bolt-A-Plate™ Structural Plate
- Precast Panel Retaining Walls
- Welded Wire Retaining Walls
- Dur-A-Span® Aluminum Structural Plate
- Bolt-A-Bin™ Bin Type Retaining Wall
- Modular Vehicular Bridges
- Pedestrian Bridges
- Sandia Bridges™
- Detour Bridges
- Skyway Bridges
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