

Technical Information

- On the following pages, you will find helpful technical information regarding the selected materials to help you make the best choice for your enclosure.
- If you have any questions, please contact our sales team at :

info@sealconusa.com



Material specifications and compatibility chart

	Weak acid	Concentrated acid	Weak caustic solution	Concentrated caustic solution	Alcohol	Gasoline	Benzol	Mineral oil	Diesel	Ammonia	Vegetable fat	Animal fat	Free of halogen, heavy metal, PVC and silicone	Flame resistant per VDE 0471 / EN 60695 / UL 94	Max. ambient temperature (short term expose 1 hr. max)	Max. ambient temperature (continuous exposure)
ABS, Impact resistant	○	/	●	●	●	/	/	○	/	●	○	○	yes	960 °C / V-2	+80 °C	-40 °C – +70 °C
Polycarbonate, Fiberglass reinforced	○	/	/	/	●	●	/	●	○	/	●	●	yes	960 °C / V-2	+130 °C	-35 °C – +120 °C
Polycarbonate, transparent	○	/	/	/	○	○	/	●	○	/	●	●	yes	850 °C / V-2	+130 °C	-35 °C – +120 °C
Polyethylene	●	●	●	●	●	○	/	○	○	●	●	●	yes	650 °C / V-2	+100 °C	-40 °C – +70 °C
Polypropylene	●	○	●	○	●	○	○	●	○	●	●	●	yes	960 °C / V-2	+120 °C	-30 °C – +100 °C
Polypropylene, Halogen free	●	○	●	○	●	○	○	●	○	●	●	●	yes	960 °C / V-2	+120 °C	-30 °C – +100 °C
Polypropylene Copolymer	●	○	●	○	●	○	○	○	●	●	●	●	yes	650 °C / HB	+120 °C	-30 °C – +100 °C
Polyurethane	○	○	○	○	○	○	○	●	○	○	●	●	yes	650 °C / -	+110 °C	-35 °C – +80 °C
Aluminium AL 12 Si	●	○	●	●	○	●	/	●	●	●	○	○	yes	-	+130 °C	-40 °C – +100 °C
	○	○	○	○	●	●	●	●	●	●	●	●	yes	960 °C / V-0	+90 °C	-40 °C – +70 °C
Polyester, Fiberglass reinforced	○	/	○	/	●	●	●	●	●	●	●	●	yes	960 °C / V-0	+120 °C	-40 °C – +100 °C
Polyamide (Nylon) 6, Fiberglass reinforced	●	○	●	●	●	○	○	●	●	●	○	○	yes	750 °C / HB	+200 °C	-30 °C – +100 °C
Thermoplastic Elastomer	●	○	●	○	●	○	○	○	○	○	●	●	yes	750 °C / HB	+110 °C	-30 °C – +80 °C

● compatible ○ limited compatibility / incompatible

Material selection chart: optimized for your application

Polycarbonate (PC)	
+ High impact resistance	- Because of the fibreglass used, achieving the correct color shade maybe difficult
+ High degree of protection	
+ Light weight	
+ Good resistance to chemicals	
+ Wide temperature range	
+ Self-extinguishing	
+ Easily machined using standard tools	
+ Excellent insulation properties	
+ Also suitable for outdoor use	
+ Also available with clear cover	

Aluminium (AL)	
+ Lighter than steel	- More expensive than thermoplastic materials
+ High impact resistance	
+ Good resistance against solvents	
+ Wide temperature resistance range	
+ Excellent corrosion resistance	

Powder Coated Steel	
+ High impact resistance	- Corrosion risk
+ High degree of protection	
+ Easy to customize; special dimensions possible	

Acryl-Butadiene-Styrene (ABS)	
+ Cost-effective	- Lower impact resistance than that of polycarbonate
+ Light weight	
+ Good chemical resistance	
+ Easy to machine using standard tools	
	- Narrower temperature-resistance range than polycarbonate
	- Low UV radiation resistance
	- Not suitable for outdoor use
	- Not self-extinguishing

Stainless Steel (AISI 304)	
+ High impact resistance	- More expensive than painted mild steel
+ High degree of protection	
+ Excellent corrosion resistance	- Customizing more difficult than with painted steel
+ Excellent resistance to UV radiation	
+ Suitable for outdoor use; canopy for rain is recommended	
+ Suitable for industrial environments	
+ Excellent suitability for e.g. the food industry	

Polyester (GRP, glass-reinforced-polyester)	
+ Excellent temperature resistance	- More expensive than thermoplastic materials
+ Excellent impact resistance	
+ Good corrosion resistance	
+ Good resistance against solvents	- Machining problematic
+ Suitability for highly demanding industrial environments	
	- Non-recyclable material

Acid-Proof Steel (AISI 316)	
As AISI 304, also:	- More expensive than stainless steel
+ Extremely high resistance to corrosion	
+ Excellent suitability for off-shore industry	- Customizing more difficult than with painted steel
+ Excellent suitability for paper industry	

Protection (IP) Ratings per EN 60529 / DIN VDE 0470-1

1. Code		2. Code	Penetration of water								
Protection against human access to hazardous parts	Protection of equipment against penetration of solid foreign objects		Non-protected	protection against drip water (oder dripping water)	Protected against vertically falling water drops when device is tilted up to 15°	Water sprayed at an angle up to 60° on either side of the vertical shall have no harmful effects	Water splashed from any direction shall have no harmful effects	Water projected in jets from any direction shall have no harmful effects	Water projected in powerful jets from any direction shall have no harmful effects	protection against temporary submersion	protection against permanent submersion
			IP 0	IP 1	IP 2	IP 3	IP 4	IP 5	IP 6	IP 7	IP 8
Non-protected	Non-protected	IP 00	IP 00								
Protected against access to hazardous parts with the back of the hand	Protected against solid foreign objects larger in diameter than 50 mm	IP 10	IP 10	IP 11	IP 12						
Protected against access to hazardous parts with a finger	Protected against solid foreign object larger in diameter than 12,5 mm	IP 20	IP 20	IP 21	IP 22	IP 23					
Protected against access to hazardous parts with a tool larger in diameter than 2,5 mm	Protected against solid foreign objects larger in diameter than 2,5 mm	IP 30	IP 30	IP 31	IP 32	IP 33	IP 34				
Protected against access to hazardous parts with a wire larger in diameter than 1,0 mm	Protected against solid foreign objects larger in diameter than 1 mm	IP 40	IP 40	IP 41	IP 42	IP 43	IP 44				
Protected against access to hazardous parts with a wire larger in diameter than 1,0 mm	Prevents penetration of dust sufficient to cause damage inside the equipment.	IP 50	IP 50				IP 54	IP 55			
Protected against access to hazardous parts with a wire larger in diameter than 1,0 mm	Dust proof	IP 60	IP 60					IP 65	IP 66	IP 67	IP 68

IK-marking, EN 50102

IK-marking consists of 2 codes (Bsp. IK 06).

2 codes oder references

degree of protection against mechanical wear & tear.

	h (cm)	Impact energy (J)
01	7,5	0,15
02	10	0,20
03	17,5	0,35
04	25	0,50
05	35	0,70
06	20	1
07	40	2
08	29,5	5
09	20	10
10	40	20

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NEMA rating

NEMA Rating	IP-class	Indoor	Outdoor	In- and Outdoor	Protection against:
NEMA 1	IP 23	■			Falling dirt and moisture
NEMA 2	IP 30	■			Splashing water and dirt
NEMA 3	IP 64		■		Wind carried dust, rain and hail
NEMA 3R	IP 32		■		Rain and hail
NEMA 3S	IP 64		■		As 3, outdoor equipment under ice load
NEMA 4	IP 66			■	As 3, protection against water spray, ice accumulation
NEMA 4x	IP 66			■	As 4, corrosion resistant
NEMA 6	IP 66 – 68			■	As 6P, ice accumulation corrosion resistant
NEMA 6P	IP 67 – 68			■	Submersed in water for a specified time and depth
NEMA 12, 12K	IP 65	■			Dirt / non-corrosive drops of liquid
NEMA 13	IP 65	■			Same as 12, oils and non-corrosive coolant

NEMA (National Electrical Manufacturers' Association) is a cooperative organization for the American electrical industry. The NEMA specifications and testing methods are used by Underwriters Laboratories (UL) for testing and classification of enclosures. The table above gives a comparison of the NEMA classification and the nearest corresponding IP rating.

Approvals available on request

	Series 11	Series 12	Series 13	Series 14	Series 15	Series 17	Series 18	Series 19
UL	■ (only PC)	■ (only PC)	■ (only PC)	■ (only PC)	■	■		
cUL	■ (only PC)	■ (only PC)	■ (only PC)	■ (only PC)	■	■		
GOST	■	■	■	■			■	■
Germanischer Lloyd	■	■	■	■	■	■	■	■
RINA	■	■	■					

Page Finder

Page Finder		Page Finder		Page Finder	
Solar^{PLUS} Enclosures in Polycarbonate P/N 3.100.xxxx.xx		Series 14 Hinged PC Enclosures P/N 3.140.xxxx.xx		Series 18 Powder-Coated Steel Enclosures P/N 3.180.xxxx.xx	
Size	Page	Size	Page	Size	Page
6.89x6.89x2.95" / 175x175x75 mm	12	7.87x7.87x5.19" / 200x200x132 mm	50	5.90x5.90x3.15" / 150x150x80 mm	82
2.08x2.48x3.94" / 175x175x100 mm	12	7.87x7.87x7.36" / 200x200x187 mm	50	5.90x5.90x4.72" / 150x150x120 mm	82
Series 11 Small PC/ABS Enclosures P/N 3.110.xxxx.xx		7.87x11.81x5.19" / 200x300x132 mm		7.87x7.87x3.15" / 200x200x80 mm	
Size	Page	7.87x11.81x7.36" / 200x300x187 mm		7.87x7.87x4.72" / 200x200x120 mm	
2.08x2.17x1.42" / 53x55x36 mm	14	7.87x15.75x5.19" / 200x400x132 mm		11.81x5.90x3.15" / 300x150x80 mm	
2.08x2.48x1.42" / 53x63x36 mm	14	7.87x15.75x7.36" / 200x400x187 mm		11.81x5.90x4.72" / 300x150x120 mm	
3.14x3.23x2.20" / 80x82x56 mm	15	11.81x11.81x5.19" / 300x300x132 mm		11.81x7.87x3.15" / 300x200x80 mm	
3.14x3.62x3.39" / 80x82x86 mm	15	11.81x11.81x7.36" / 300x300x187 mm		11.81x7.87x4.72" / 300x200x120 mm	
3.14x4.72x2.20" / 80x120x56 mm	16	11.81x15.75x5.19" / 300x400x132 mm		15.74x7.87x3.15" / 400x200x80 mm	
3.14x4.72x3.39" / 80x120x86 mm	16	11.81x15.75x7.36" / 300x400x187 mm		15.74x7.87x4.72" / 400x200x120 mm	
3.14x6.29x2.20" / 80x160x56 mm	17	11.81x23.62x5.19" / 300x600x132 mm		15.74x11.81x4.72" / 400x300x120 mm	
3.14x6.29x3.39" / 80x160x86 mm	17	15.75x23.62x7.36" / 300x600x187 mm		15.74x15.74x4.72" / 400x400x120 mm	
4.72x4.80x2.20" / 120x122x56 mm	18	Accessories 3.814.xxxx.xx		19.69x7.87x4.72" / 500x200x120 mm	
4.72x4.80x3.39" / 120x122x86 mm	18			19.69x11.81x4.72" / 500x300x120 mm	
4.72x6.29x3.58" / 120x160x91 mm	19	Series 15 Aluminum Enclosures P/N 3.150.xxxx.xx		23.62x7.87x3.15" / 600x200x80 mm	
4.72x7.87x3.39" / 120x200x86 mm	19	Size		23.62x11.82x4.72" / 600x300x120 mm	
5.90x7.87x2.99" / 150x200x76 mm	20	1.97x1.77x1.18" / 50x45x30 mm		23.62x15.74x4.72" / 600x400x120 mm	
6.29x9.44x3.58" / 160x240x91 mm	20	2.52x2.28x1.42" / 64x58x36 mm		31.49x7.87x4.72" / 800x200x120 mm	
6.29x9.44x4.76" / 160x240x121 mm	21	2.52x3.85x1.42" / 64x98x36 mm		31.49x15.74x4.72" / 800x400x120 mm	
9.05x1.81x3.39" / 230x300x86 mm	21	2.52x5.91x1.42" / 64x150x36 mm			
9.05x11.81x4.37" / 230x300x111 mm	22	3.15x2.95x2.24" / 80x75x57 mm		Series 19 Stainless Steel Enclosures P/N 3.190.xxxx.xx	
Accessories 3.811.xxxx.xx	23	3.15x4.92x2.24" / 80x125x57 mm		Size	
Series 12 Medium PC/ABS Enclosures P/N 3.120.xxxx.xx		3.15x6.89x2.24" / 80x175x57 mm		5.90x5.90x3.15" / 150x150x80 mm	
Size	Page	3.15x9.84x2.24" / 80x250x57 mm		5.90x5.90x4.72" / 150x150x120 mm	
2.95x4.92x2.95" / 75x125x75 mm	26	4.80x4.80x3.54" / 122x122x90 mm		7.87x7.87x3.15" / 300x150x80 mm	
2.95x4.92x3.94" / 75x125x100 mm	26	4.80x8.66x3.54" / 122x220x90 mm		7.87x7.87x4.72" / 300x200x80 mm	
2.95x4.92x4.92" / 75x125x125 mm	27	4.80x14.17x3.15" / 122x360x80 mm		7.87x7.87x7.36" / 300x300x120 mm	
4.92x4.92x2.95" / 125x125x75 mm	27	6.30x6.30x3.54" / 160x160x90 mm		11.81x5.90x3.15" / 300x150x80 mm	
4.92x4.92x3.94" / 125x125x100 mm	28	6.30x10.24x3.54" / 160x260x90 mm		11.81x5.90x4.72" / 300x150x120 mm	
4.92x4.92x4.92" / 125x125x125 mm	28	6.30x14.17x3.54" / 160x360x90 mm		11.81x7.87x3.15" / 300x200x80 mm	
4.92x6.89x2.95" / 125x175x75 mm	29	6.30x22.05x3.54" / 160x560x90 mm		11.81x7.87x4.72" / 300x200x120 mm	
4.92x6.89x3.94" / 125x175x100 mm	29	7.87x9.06x4.33" / 200x230x110 mm		11.81x11.81x4.72" / 400x300x120 mm	
4.92x6.89x4.92" / 125x175x125 mm	30	7.87x9.06x7.09" / 200x230x180 mm		15.74x7.87x3.15" / 400x200x80 mm	
4.92x6.89x5.91" / 125x175x150 mm	30	9.06x11.02x4.33" / 230x280x110 mm		15.74x7.87x4.72" / 400x200x120 mm	
6.89x6.89x2.95" / 175x175x75 mm	31	9.06x12.99x4.33" / 230x330x110 mm		15.74x11.81x4.72" / 400x300x120 mm	
6.89x6.89x3.94" / 175x175x100 mm	31	9.06x15.75x7.09" / 230x400x110 mm		15.74x15.74x4.72" / 400x400x120 mm	
6.89x6.89x4.92" / 175x175x125 mm	32	9.06x23.62x4.33" / 230x600x110 mm		19.69x7.87x4.72" / 500x200x120 mm	
6.89x6.89x5.91" / 175x175x150 mm	32	12.20x15.83x4.33" / 310x402x110 mm		19.69x11.81x4.72" / 500x300x120 mm	
6.89x9.84x2.95" / 175x250x75 mm	33	12.20x15.83x7.09" / 310x402x180 mm		23.62x7.87x3.15" / 600x200x80 mm	
6.89x9.84x3.94" / 175x250x100 mm	33	12.20x23.62x4.33" / 310x600x110 mm		23.62x11.82x4.72" / 600x300x120 mm	
6.89x9.84x5.91" / 175x250x150 mm	34	12.20x23.62x7.09" / 310x600x180 mm		23.62x15.74x4.72" / 600x400x120 mm	
Accessories 3.812.xxxx.xx	35			31.49x7.87x4.72" / 800x200x120 mm	
Series 13 Large PC/ABS Enclosures P/N 3.130.xxxx.xx		Series 17 Large PC/ABS Enclosures P/N 3.170.xxxx.xx		31.49x15.74x4.72" / 800x400x120 mm	
Size	Page	Size		Page	
7.87x7.87x5.20" / 200x200x132 mm	38	2.95x3.14x2.16" / 75x80x55 mm		74	
7.87x7.87x7.36" / 200x200x187 mm	38	2.95x4.33x2.16" / 75x110x55 mm		74	
7.87x11.81x5.20" / 200x300x132 mm	39	2.95x6.30x2.16" / 75x160x55 mm		75	
7.87x11.81x7.36" / 200x300x187 mm	39	2.95x7.48x2.16" / 75x190x55 mm		75	
7.87x15.75x5.20" / 200x400x132 mm	40	4.72x4.80x3.54" / 120x122x90 mm		76	
7.87x15.75x7.36" / 200x400x187 mm	40	4.72x8.66x3.54" / 120x220x90 mm		76	
11.81x11.81x5.20" / 300x300x132 mm	41	6.30x6.30x3.58" / 160x160x91 mm		77	
11.81x11.81x7.36" / 300x300x187 mm	41	6.30x10.23x3.58" / 160x260x91 mm		77	
11.81x15.75x5.20" / 300x400x132 mm	42	6.30x14.17x3.58" / 160x360x91 mm		78	
11.81x15.75x7.36" / 300x400x187 mm	42	6.30x22.05x3.58" / 160x560x91 mm		78	
11.81x23.62x5.20" / 300x600x132 mm	43	9.84x10.03x4.72" / 250x255x120 mm		79	
11.81x23.62x7.36" / 300x600x187 mm	43	9.84x15.75x4.72" / 250x400x120 mm		79	
15.75x23.62x5.20" / 400x600x132 mm	44	15.75x15.94x4.72" / 400x405x120 mm		80	
15.75x23.62x7.36" / 400x600x187 mm	44				
Accessories 3.813.xxxx.xx	45/46				
Special Accessories 3.813.xxxx.xx	47/48				

Name _____ Title _____
 Company _____ Div./MS _____
 Address _____
 City _____ State _____
 Phone () _____ Fax () _____
 E-mail _____

Your company is best classified as:

- | | | |
|---|--|---------------------------------------|
| <input type="checkbox"/> OEM | <input type="checkbox"/> Distributor | <input type="checkbox"/> Consultant |
| <input type="checkbox"/> End User / MRO | <input type="checkbox"/> Contractor | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Systems Integrator | <input type="checkbox"/> Government / School | |

Your primary job function:

- | | | |
|---|---|---------------------------------------|
| <input type="checkbox"/> Product Design | <input type="checkbox"/> Plant Operations/Maintenance | <input type="checkbox"/> Purchasing |
| <input type="checkbox"/> System Design | <input type="checkbox"/> Sales / Marketing | <input type="checkbox"/> Other: _____ |

Which industry(ies) does your company serve? (Please check all that apply)

- | | | |
|--|--|---|
| <input type="checkbox"/> Amusement | <input type="checkbox"/> Furnaces | <input type="checkbox"/> Maintenance / Repair |
| <input type="checkbox"/> Antennas | <input type="checkbox"/> Hardware Wholesale | <input type="checkbox"/> Packaging Machinery |
| <input type="checkbox"/> Automobile Parts & Supplies | <input type="checkbox"/> Hot Tubs & Spas | <input type="checkbox"/> Printing Equipment |
| <input type="checkbox"/> Cable Houses | <input type="checkbox"/> Ice Making Equipment | <input type="checkbox"/> Pumps |
| <input type="checkbox"/> Car Wash | <input type="checkbox"/> Industrial Measurement | <input type="checkbox"/> Research & Development |
| <input type="checkbox"/> Chemical Manufacturing | <input type="checkbox"/> Irrigation | <input type="checkbox"/> Recreational Vehicles |
| <input type="checkbox"/> Commercial Air Conditioning | <input type="checkbox"/> Laboratory Equipment | <input type="checkbox"/> Solar Panels / Solar Power Systems |
| <input type="checkbox"/> Computer | <input type="checkbox"/> Lighting | <input type="checkbox"/> Steam Cleaning & Drying |
| <input type="checkbox"/> Construction & Buildings | <input type="checkbox"/> Machine Tool Manufacturers | <input type="checkbox"/> Swimming Pools |
| <input type="checkbox"/> Consulting & Eng. Services | <input type="checkbox"/> Manufacturers | <input type="checkbox"/> Telephone / Telecom Equipment |
| <input type="checkbox"/> Education & Consultant | <input type="checkbox"/> Marine | <input type="checkbox"/> Trailer / Trucking |
| <input type="checkbox"/> Electric Equipment | <input type="checkbox"/> Material Handling Equipment | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Electric Manufacturing | <input type="checkbox"/> Medical Equipment | <input type="checkbox"/> Utility & Other Energy Systems |
| <input type="checkbox"/> Electronic Equipment | <input type="checkbox"/> Military | <input type="checkbox"/> Water Treatment |
| <input type="checkbox"/> Farm Equipment | <input type="checkbox"/> Mining Equipment | <input type="checkbox"/> Wind Power Systems |
| <input type="checkbox"/> Food Processing | <input type="checkbox"/> Molding Plastic | <input type="checkbox"/> Wood Processing |
| | | <input type="checkbox"/> Other: _____ |

Catalogs & Flyers Request:

- | | |
|---|---|
| <input type="checkbox"/> Sealcon Strain Relief Fittings & Accessories | <input type="checkbox"/> Circular Connector Flyer |
| <input type="checkbox"/> Circular Connectors Catalog | <input type="checkbox"/> M23 RJ45 - Industrial Ethernet Flyer |
| <input type="checkbox"/> Industrial Enclosures Catalog | <input type="checkbox"/> Adapter, Reducer & Enlarger Flyer |
| <input type="checkbox"/> European & Domestic Cable Catalog | <input type="checkbox"/> Hensel - Industrial Enclosures Flyer |

Request for Quote/Samples:

Part Number(s)	
Cable O.D.	
Quantity	
Application Comments	
Other Cable Management Needs	

(Sales will Call to Verify Sample)

Complete form & fax back to 303-680-5344. Our Inside Technical Sales will process your requests in the order they were received.

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