



ArcelorMittal

ArcelorMittal Rails & Special Sections



Mining sections and arch roof supports

Catalogue and technical instruction

Our Company

ArcelorMittal with over 125.500 employees across 60 countries and industrial locations in 15 countries is one of the world's leading steel and mining company.

ArcelorMittal is one of the world's largest rail producers with a capacity of 1 million tons of annual rail production with true global presence; supplying rails for railways, metro, tramway, light tracks, crossings, crane rails and rail components.

As the world's leading steel company, we are committed to leading our industry's efforts to decarbonise, and to be part of the solution to the world reaching net-zero by 2050.

About ArcelorMittal Poland

ArcelorMittal Poland is the largest steel producer in Poland, employing more than 9.000 people in 5 plants located in Silesia, Malopolska and Opolskie province. ArcelorMittal Poland concentrates almost 50 per cent of the Polish steel industry's production capacity. The company is also one of the largest Polish exporters and producers of coke in Europe and in the entire ArcelorMittal group.

The company produces:

- Well-known long products such as sections (including sheet piles), rails and railway accessories, as well as mining supports used respectively in construction, railway transport and mining industry.
- Flat products used in the automotive, appliance and construction industries.



Certificates

ArcelorMittal Poland holds certificates confirming functioning of Integrated Management System in the entire area of the company.

Integrated Management System in ArcelorMittal Poland covers:

- Quality Management System according to ISO 9001:2015 and, in selected areas, Quality Management System for Automotive according to IATF 16949:2016.
- Environmental Management System according to ISO 14001:2015.
- Occupational Health and Safety Management System according to ISO 45001:2018.
- Energy Management System according to ISO 50001:2011.
- ResponsibleSteel Standard.
- Process Safety Management System according to the requirements of Environmental Protection Law act.

Environmental Protection Laboratories and Quality Testing Laboratories are accredited to meet the requirements of ISO/IEC 17025

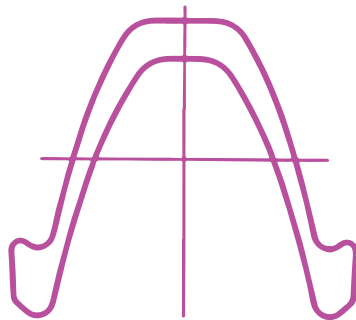


Product range

Sections for the mining industry and arch roof supports

Profiles

Profiles	Standard	Mass [kg/m]	Cross-sectional area [cm ²]	Ix [cm ⁴]	Static values		
					Wx [cm ³]	Iy [cm ⁴]	Wy [cm ³]
V25	PN-H-93441-3	25,0	31,7	464	74,6	540	80,0
V29	PN-H-93441-3	28,5	36,3	581	87,5	756	100,5
V32	PN-H-93441-3	32,1	40,9	838	121,4	1174	137,3
V36	PN-H-93441-3	35,5	45,2	923	127,6	1229	143,7



Chemical composition

Standard	Grade	C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cr [%]
WT/S1/J.207	S560W	max 0,26	max 1,45	max 0,45	max 0,025	max 0,025	0,25-0,30
PN-H-84042	S480W	max 0,25	max 1,7	max 0,50	max 0,035	max 0,035	0,25-0,45
PN-89/H-84023/05	34GJ	0,30-0,38	0,70-0,95	0,15-0,30	max 0,045	max 0,045	-
DIN 21530*	31Mn4	0,28-0,36	0,80-1,10	0,20-0,50	max 0,035	max 0,035	-

Standard	Grade	Ni [%]	Cu [%]	Al [%]	V [%]	Nb [%]	Ti [%]	N [%]
WT/S1/J.207	S560W	max 0,30	0,25-0,30	max 0,035	max 0,12	max 0,05	max 0,04	max 0,020
PN-H-84042	S480W	max 0,30	max 0,30	max 0,025	max 0,15	max 0,05	max 0,04	-
PN-89/H-84023/05	34GJ	-	-	min 0,02	-	-	-	-
DIN 21530*	31Mn4	-	max 0,35	min 0,02	-	-	-	-

Mechanical properties

Standard	Grade	R _e min [MPa]	R _m min [MPa]	A ₅ min [%]	KCU2A min [J/cm ²]
WT/S1/J.207	S560W	560	740	18	50
PN-H-84042	S480W	480	650	17	30
PN-89/H-84023/05	34GJ	340	550	17	30
DIN 21530*	31Mn4	350	550	18	

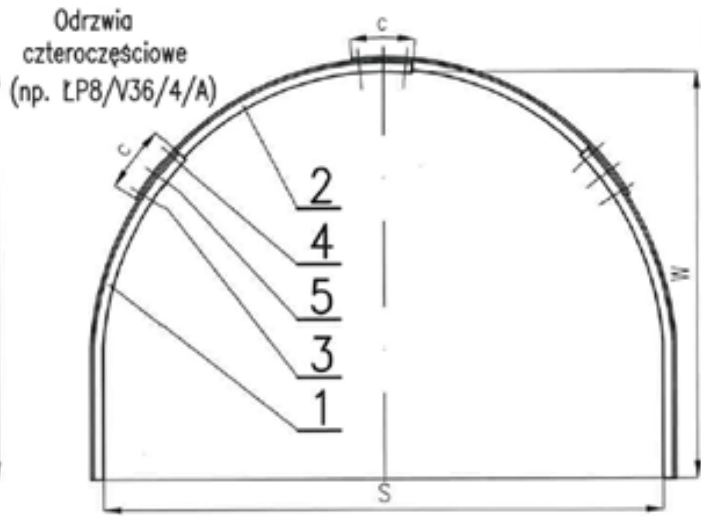
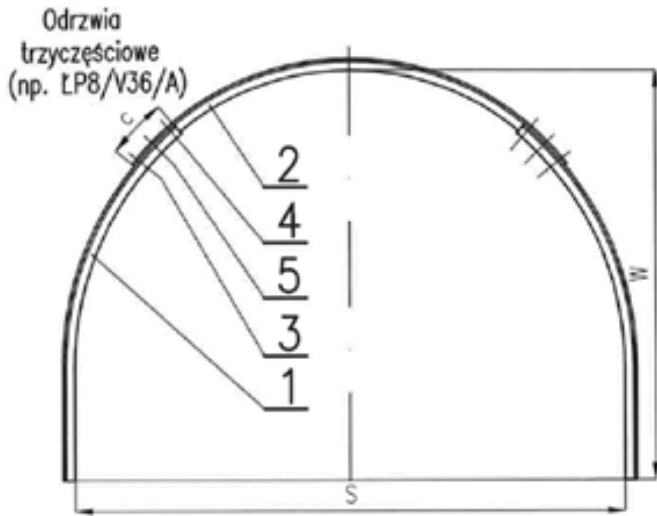
Roof support types

Standard	Full name	Standard	Section type
LP	FLEXIBLE ROOF SUPPORTS	PN-G-15021	V25, V29, V32, V36
LP elevated	FLEXIBLE ROOF SUPPORTS	PN-G-15021	V25, V29, V32, V36
LPZ	CLOSED FLEXIBLE ROOF SUPPORTS	PN-G-15021	V25, V29, V32, V36
LPZS*	SPECIAL CLOSED FLEXIBLE ROOF SUPPORTS	WT-AM-82*	V32, V36
LPSC	SPECIAL FLEXIBLE ROOF SUPPORTS	WT-127*	V32, V36
LPSCZ	SPECIAL CLOSED FLEXIBLE ROOF SUPPORTS	WT-128α*	V32, V36
LPM*	MIXED FLEXIBLE ROOF SUPPORTS	TWT-OCHŁ-40*	V32, V36
LPO			

*Additional properties to be agreed

LP

FLEXIBLE ROOF SUPPORTS



V25

Item	Designation	Wall arch			Roof arch			Cross section	S	W	C
		L ₁	R ₁	Z	L ₂	R ₂	mm				
1	ŁP1/V25/A	2385	1575 ±16	1060	2470	1175 ±12	5,5	2500 ±50	2500 ±50	350 ±18	
2	ŁP2/V25/A	2205	1725 ±17	920	3120	1350 ±14	6,1	2800 ±56	2500 ±50		
3	ŁP3/V25/A	2470	1850 ±19	990	3075	1425 ±14	7,0	3000 ±60	2700 ±54	400 ±20	
4	ŁP4/V25/A	2545	2000 ±20	970	3235	1525 ±15	7,8	3200 ±64	2800 ±56		
5	ŁP5/V25/A	2825	2000 ±20	1100	3295	1625 ±16	8,9	3400 ±68	3000 ±60		
6	ŁP6/V25/A	2925	2075 ±21	990	3275	1775 ±18	9,6	3700 ±74	3000 ±60	450 ±23	
7	ŁP7/V25/A	3120 ±20	2350 ±24	810	3345 ±20	2000 ±20	11,0	4200 ±84	3100 ±62		
8	ŁP8/V25/A	3205	2625 ±26	760	3970	2250 ±23	13,1	4700 ±94	3300 ±66	500 ±25	
9	ŁP9/V25/A	3490	2750 ±28	820	4070	2400 ±24	14,8	5000 ±100	3500 ±70		
10	ŁP10/V25/A	3540	3075 ±31	830	4845	2650 ±27	17,6	5500 ±110	3800 ±76	550 ±28	
11	ŁP11/V25/4/A	3320	3250 ±33	930	3320	2850 ±29	19,8	5800 ±116	4025 ±81		
12	ŁP12/V25/4/A	3460	3450 ±35	960	3460	3000 ±30	21,8	6100 ±122	4225 ±85	600 ±30	
13	ŁP13/V25/4/A	3605	3650 ±37	990	3605	3150 ±32	24,0	6400 ±128	4425 ±89		

V29

Item	Designation	Wall arch			Roof arch			Cross section	S	W		C
		L ₁	R ₁	Z	L ₂	R ₂	mm					
		mm			mm			m ²	mm			
1	ŁP6/V29/A	2890	2075 ±21	990	3345	1175 ±18	9,6	3700 ±74	3000 ±60	450 ±23		
2	ŁP7/V29/A	3115	2300 ±23	840	3470	2025 ±20	11,1	4200 ±84	3100 ±62	500 ±25		
3	ŁP8/V29/A	3225	2625 ±26	760	3925	2250 ±23	13,1	4700 ±94	3300 ±66			
4	ŁP9/V29/A	3490	2750 ±28	820	4070	2400 ±24	14,8	5000 ±100	3500 ±70	550 ±28		
5	ŁP10/V29/A	3540	3075 ±31	830	4845	2650 ±27	17,6	5500 ±110	3800 ±76			
6	ŁP9/V29/4/A	2950	2750 ±28	850	2950	2475 ±25	14,9	5000 ±100	3500 ±70			
7	ŁP10/V29/4/A	3170	3075 ±31	870	3170	2700 ±27	17,7	5500 ±110	3800 ±76			
8	ŁP11/V29/4/A	3320	3250 ±33	930	3320	2850 ±29	19,8	5800 ±116	4025 ±81			
9	ŁP12/V29/4/A	3465 ±20	3450 ±35	960	3465 ±20	3000 ±30	21,9	6100 ±122	4225 ±85			
10	ŁP13/V29/4/A	3605	3650 ±37	990	3605	3150 ±32	24,0	6400 ±128	4450 ±89			
11	ŁP14/V29/4/A	3705	3825 ±38	940	3705	3275 ±33	25,6	6700 ±134	4550 ±91	600 ±30		
12	ŁP15/V29/4/A	3825	4025 ±40	920	3825	3400 ±34	27,6	7000 ±140	4700 ±94			
13	ŁP16/V29/4/A	3950	4150 ±42	1010	3950	3500 ±35	29,6	7200 ±144	4900 ±98			
14	ŁP17/V29/4/A	4095	4350 ±44	1040	4095	3650 ±37	32,2	7500 ±150	5110 ±102			
15	ŁP18/V29/4/A	4245	4550 ±46	1080	4245	3775 ±38	34,8	7800 ±156	5325 ±107			
16	ŁP19/V29/4/A	4340	4675 ±47	1110	4340	3875 ±39	36,6	8000 ±160	5465 ±109			

V32

Item	Designation	Wall arch			Roof arch			Cross section	S	W		C
		L ₁	R ₁	Z	L ₂	R ₂	mm			mm		
		mm			mm			m ²	mm			
1	ŁP7/V32/A	3120	2300 ±23	840	3480	2030 ±20	11,2	4200 ±84	3100 ±62	500 ±25		
2	ŁP8/V32/A	3225	2610 ±26	750	3940	2260 ±23	13,2	4700 ±94	3300 ±66	500 ±25		
3	ŁP9/V32/A	3490	2760 ±28	820	4080	2400 ±24	14,9	5000 ±100	3500 ±70	550 ±28		
4	ŁP10/V32/A	3545	3075 ±31	870	4855	2655 ±27	17,8	5500 ±110	3800 ±76	600 ±28		
5	ŁP7/V32/4/A	2565	2375 ±24	840	2565	2075 ±21	11,2	4200 ±84	3100 ±62	500 ±25		
6	ŁP8/V32/4/A	2735	2700 (27	750	2735	2300 ±23	13,2	4700 ±94	3300 ±66	500 ±25		
7	ŁP9/V32/4/A	2915	2825 (28	820	2915	2475 ±25	14,9	5000 ±100	3500 ±70	550 ±30		
8	ŁP10/V32/4/A	3175	3075 (31	870	3175	2725 ±27	17,8	5500 ±110	3800 ±76	600 ±30		
9	ŁP11/V32/4/A	3330	3275 (33	920	3330	2850 ±29	19,8	5800 ±116	4025 ±81			
10	ŁP12/V32/4/A	3470	3425 (34	960	3470	3000 ±30	21,8	6100 ±122	4225 ±85			
11	ŁP13/V32/4/A	3610	3625 (36	990	3610	3150 ±32	24,0	6400 ±128	4425 ±89			
12	ŁP14/V32/4/A	3715	3825 (38	940	3715	3275 ±33	25,7	6700 ±134	4550 ±91			
13	ŁP15/V32/4/A	3830	4000 (40	920	3830	3425 ±34	27,6	7000 ±140	4700 ±94			
14	ŁP16/V32/4/A	3955	4150 (42	1000	3955	3500 ±35	29,6	7200 ±144	4900 ±98			
15	ŁP17/V32/4/A	4100	4350 (44	1040	4100	3650 ±37	32,1	7500 ±150	5110 ±102			
16	ŁP18/V32/4/A	4250	4550 (46	1080	4250	3775 ±38	34,8	7800 ±156	5325 ±107			
17	ŁP19/V32/4/A	4350	4700 ±47	1100	4350	3875 ±39	36,7	8000 ±160	5465 ±109			

V36

Item	Designation	Wall arch			Roof arch			Cross section	S	W		C
		L ₁	R ₁	Z	L ₂	R ₂	mm					
		mm			mm			m ²				
1	ŁP7/V36/A	3120	2300 ±23	840	3480	2030 ±20	11,1	4200 ±84	3100 ±62	500 ±25		
2	ŁP8/V36/A	3225	2610 ±26	750	3940	2260 ±23	13,1	4700 ±94	3300 ±66			
3	ŁP9/V36/A	3490	2760 ±28	820	4080	2400 ±24	14,3	5000 ±100	3500 ±70	550 ±28		
4	ŁP10/V36/A	3545	3075 ±31	870	4855	2655 ±27	17,6	5500 ±110	3800 ±76	600 ±30		
5	ŁP7/V36/4/A	2565	2375 ±24	840	2565	2075 ±21	11,2	4200 ±84	3100 ±62	500 ±25		
6	ŁP8/V36/4/A	2735	2700 ±27	750	2735	2300 ±23	13,2	4700 ±94	3300 ±66			
7	ŁP9/V36/4/A	2915	2825 ±28	820	2915	2475 ±25	14,9	5000 ±100	3500 ±70	550		
8	ŁP10/V36/4/A	3175	3075 ±31	870	3175	2725 ±27	17,8	5500 ±110	3800 ±76	600 ±30		
9	ŁP11/V36/4/A	3330 ±20	3275 ±33	920	3330 ±20	2850 ±29	19,8	5800 ±116	4025 ±81			
10	ŁP12/V36/4/A	3470	3425 ±34	960	3470	3000 ±30	21,9	6100 ±122	4225 ±85			
11	ŁP13/V36/4/A	3610	3625 ±36	990	3610	3150 ±32	24,0	6400 ±128	4425 ±89			
12	ŁP14/V36/4/A	3715	3825 ±38	940	3715	3275 ±33	25,7	6700 ±134	4550 ±91			
13	ŁP15/V36/4/A	3830	4000 ±40	920	3830	3425 ±34	27,6	7000 ±140	4700 ±94			
14	ŁP16/V36/4/A	3955	4150 ±42	1000	3955	3500 ±35	29,6	7200 ±144	4900 ±98			
15	ŁP17/V36/4/A	4100	4350 ±44	1040	4100	3650 ±37	32,1	7500 ±150	5110 ±102			
16	ŁP18/V36/4/A	4250	4550 ±46	1080	4250	3775 ±38	34,8	7800 ±156	5325 ±107			
17	ŁP19/V36/4/A	4350	4700 ±47	1100	4350	3875 ±39	36,7	8000 ±160	5465 ±109			

LPM

MIXED FLEXIBLE ROOF SUPPORTS

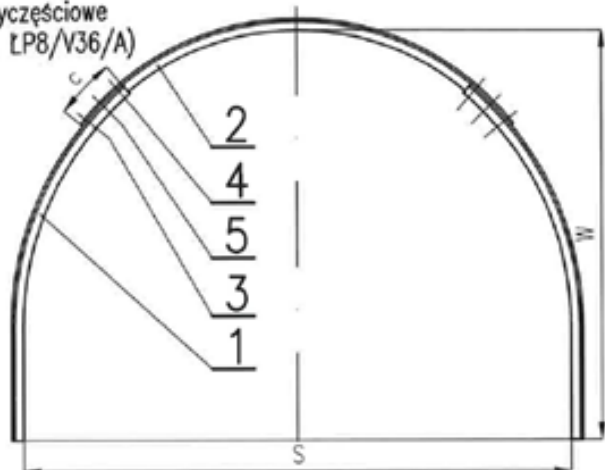
V32 and V36

Item	Designation	Wall arch			Roof arch		Cross section	S	W	C
		L ₁	R ₁	Z	L ₂	R ₂				
		mm			mm		m ²	mm		
1	ŁPM8/V36 V32/4/A	2735	2700 ±27	750	2735	2300 ±23	13,2	4700 ±94	3300 ±66	500 ±25
2	ŁPM9/V36/V32/4/A	2915	2825 ±28	820	2915	2475 ±25	14,9	5000 ±100	3500 ±70	550 ±28
3	ŁPM10/V36/V32/4/A	3175	3075 ±31	870	3175	2725 ±27	17,8	5500 ±110	3800 ±76	
4	ŁPM11/V36/V32/4/A	3330	3275 ±33	920	3330	2850 ±29	19,8	5800 ±116	4025 ±81	
5	ŁPM12/V36/V32/4/A	3470	3425 ±34	960	3470	3000 ±30	21,8	6100 ±122	4225 ±85	
6	ŁPM13/V36/V32/4/A	3610	3625 ±36	990	3610	3150 ±32	24,0	6400 ±128	4425 ±89	
7	ŁPM14/V36/V32/4/A	3715	3825 ±38	940	3715	3275 ±33	25,7	6700 ±134	4550 ±91	
8	ŁPM15/V36/V32/4/A	3830	4000 ±40	920	3830	3425 ±34	27,6	7000 ±140	4700 ±94	600 ±30
9	ŁPM16/V36/V32/4/A	3955	4150 ±42	1000	3955	3500 ±35	29,6	7200 ±144	4900 ±98	
10	ŁPM17/V36/V32/4/A	4100	4350 ±44	1040	4100	3650 ±37	32,1	7500 ±150	5110 ±102	
11	ŁPM18/V36/V32/4/A	4250	4550 ±46	1080	4250	3775 ±38	34,8	7800 ±156	5325 ±107	
12	ŁPM19/V36/V32/4/A	4350	4700 ±47	1100	4350	3875 ±39	36,7	8000 ±160	5465 ±109	

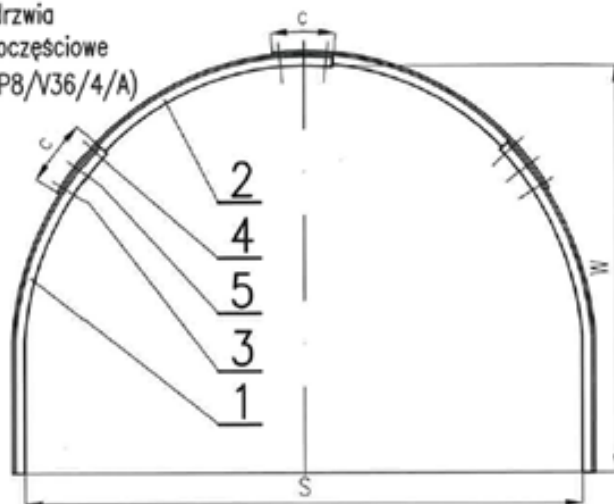
LP

ELEVATED FLEXIBLE ROOF SUPPORTS

Odrzvia
trzyczęściowe
(np. ŁP8/V36/A)



Odrzvia
czteroczęściowe
(np. ŁP8/V36/4/A)



V25

Item	Designation	Wall arch			Roof arch			Cross section	S	W	C
		L ₁	R ₁	Z	L ₂	R ₂	m ²				
		mm			mm						
1	ŁP6/V25/A/I	3425		1490				11,4		3500	
2	ŁP6/V25/A/II	3925	2075 ±21	1990	3275	1775 ±18	13,3	3700 ±74	4000 ±60		
3	ŁP6/V25/A/III	4425		2490			15,1		4500	450 ±23	
4	ŁP7/V25/A/I	3620		1310			13,1		3600		
5	ŁP7/V25/A/II	4120	2350 ±24	1810	3345	2000 ±20	15,2	4200 ±84	4100 ±62		
6	ŁP7/V25/A/III	4620		2310			17,3		4600		
7	ŁP8/V25/A/I	3705		1260			15,4		3800		
8	ŁP8/V25/A/II	4205	2625 ±26	1760	3970	2250 ±23	17,8	4700 ±94	4300 ±66	500 ±25	
9	ŁP8/V25/A/III	4705		2260			20,1		4800		
10	ŁP9/V25/A/I	3990		1320			17,3		4000		
11	ŁP9/V25/A/II	4490	2750 ±28	1820	4070	2400 ±24	19,8	5000 ±100	4500 ±70		
12	ŁP9/V25/A/III	4990		2320			22,3		5000	550 ±28	
13	ŁP10/V25/A/I	4040	±20	1330		±20	20,3		4300		
14	ŁP10/V25/A/II	4540	3075 ±31	1830	4845	2650 ±27	23,1	5500 ±110	4800 ±76		
15	ŁP10/V25/A/III	5040		2330			25,8		5300		
16	ŁP11/V25/4/A/I	3820		1430			22,7		4525		
17	ŁP11/V25/4/A/II	4320	3250 ±33	1930	3320	2850 ±29	25,6	5800 ±116	5025 ±81		
18	ŁP11/V25/4/A/III	4820		2430			28,5		5525		
19	ŁP12/V25/4/A/I	3960		1460			24,9		4725		
20	ŁP12/V25/4/A/II	4460	3450 ±35	1960	3460	3000 ±30	27,9	6100 ±122	5225 ±85	600 ±30	
21	ŁP12/V25/4/A/III	4960		2460			31,0		5725		
22	ŁP13/V25/4/A/I	4105		1490			27,2		4925		
23	ŁP13/V25/4/A/II	4605	3650 ±37	1990	3605	3150 ±32	30,4	6400 ±128	5425 ±89		
24	ŁP13/V25/4/A/III	5105		2490			33,6		5925		

V29

Item	Designation	Wall arch			Roof arch			Cross section	S	W	C
		L ₁	R ₁	Z	L ₂	R ₂	mm				
		mm			mm			m ²	mm		
1	ŁP7/V29/A/I	3615		1340				13,2		3600	500 ±25
2	ŁP7/V29/A/II	4115	2300 ±23	1840	3470	2025 ±20	15,3	4200 ±84	4100 ±62		
3	ŁP7/V29/A/III	4615		2340			17,4		4600		
4	ŁP8/V29/A/I	3725		1260			15,4		3800	500 ±25	
5	ŁP8/V29/A/II	4225	2625 ±26	1760	3925	2250 ±23	17,8	4700 ±94	4300 ±66		
6	ŁP8/V29/A/III	4725		2260			20,1		4800		
7	ŁP9/V29/A/I	3990		1320			17,3		4000	550 ±28	
8	ŁP9/V29/A/II	4490	2750 ±28	1820	4070	2400 ±24	19,8	5000 ±100	4500 ±70		
9	ŁP9/V29/A/III	4990		2320			22,3		5000		
10	ŁP10/V29/A/I	4040		1330			20,3		4300	550 ±28	
11	ŁP10/V29/A/II	4540	3075 ±31	1830	4845	2650 ±27	23,1	5500 ±110	4800 ±76		
12	ŁP10/V29/A/III	5040		2330			25,8		5300		
13	ŁP9/V29/4/A/I	3450		1350			17,4		4000	550 ±28	
14	ŁP9/V29/4/A/II	3950	2750 ±28	1850	2950	2475 ±25	19,9	5000 ±100	4500 ±70		
15	ŁP9/V29/4/A/III	4450		2350			22,4		5000		
16	ŁP10/V29/4/A/I	3670		1370			20,5		4300	550 ±28	
17	ŁP10/V29/4/A/II	4170 ±20	3075 ±31	1870	3170 ±20	2700 ±27	23,2	5500 ±110	4800 ±76		
18	ŁP10/V29/4/A/III	4670		2370			26,0		5300		
19	ŁP11/V29/4/A/I	3820		1430			22,7		4525	550 ±28	
20	ŁP11/V29/4/A/II	4320	3250 ±33	1930	3320	2850 ±29	25,6	5800 ±116	5025 ±81		
21	ŁP11/V29/4/A/III	4820		2430			28,5		5525		
22	ŁP12/V29/4/A/I	3965		1460			24,9		4725	600 ±30	
23	ŁP12/V29/4/A/II	4465	3450 ±35	1960	3465	3000 ±30	28,0	6100 ±122	5225 ±85		
24	ŁP12/V29/4/A/III	4965		2460			31,0		5725		
25	ŁP13/V29/4/A/I	4105		1490			27,2		4925	600 ±30	
26	ŁP13/V29/4/A/II	4605	3650 ±37	1990	3605	3150 ±32	30,4	6400 ±128	5425 ±89		
27	ŁP13/V29/4/A/III	5105		2490			33,6		5925		
28	ŁP14/V29/4/A/I	4205		1440			29,0		5050	600 ±30	
29	ŁP14/V29/4/A/II	4705	3825 ±38	1940	3705	3275 ±33	32,3	6700 ±134	5550 ±91		
30	ŁP14/V29/4/A/III	5205		2440			35,7		6050		
31	ŁP15/V29/4/A/I	4325		1420			31,1		5200	600 ±30	
32	ŁP15/V29/4/A/II	4825	4025 ±40	1920	3825	3400 ±34	34,6	7000 ±140	5700 ±94		
33	ŁP15/V29/4/A/III	5325		2420			38,1		6200		

V32

Item	Designation	Wall arch			Roof arch			Cross section	S	W	C
		L ₁	R ₁	Z	L ₂	R ₂					
		mm			mm						
1	ŁP7/V32/A/I	3620		1340				13,3		3600	
2	ŁP7/V32/A/II	4120	2300 ±23	1840	3480	2030 ±20		15,4	4200 ±84	4100 ±62	
3	ŁP7/V32/A/III	4620		2340				17,5		4600	500 ±25
4	ŁP8/V32/A/I	3725		1250				15,6		3800	
5	ŁP8/V32/A/II	4225	2610 ±26	1750	3940	2260 ±23		17,9	4700 ±94	4300 ±66	
6	ŁP8/V32/A/III	4725		2250				20,3		4800	
7	ŁP9/V32/A/I	3990	±20	1320		±20		17,4		4000	
8	ŁP9/V32/A/II	4490	2760 ±28	1820	4080	2400 ±24		19,9	5000 ±100	4500 ±70	550 ±28
9	ŁP9/V32/A/III	4990		2320				22,4		5000	
10	ŁP10/V32/A/I	4045		1270				20,6		4300	
11	ŁP10/V32/A/II	4545	3075 ±31	1770	4855	2655 ±27		23,3	5500 ±110	4800 ±76	600 ±30
12	ŁP10/V32/A/III	5045		2270				26,1		5300	
13	ŁP7/V32/4/A/I	3065		1340				13,3		3600	
14	ŁP7/V32/4/A/II	3565	2375 ±24	1840	2565	2075 ±21		15,4	4200 ±84	4100 ±62	
15	ŁP7/V32/4/A/III	4065		2340				17,5		4600	500 ±25
16	ŁP8/V32/4/A/I	3235		1250				15,6		3800	
17	ŁP8/V32/4/A/II	3735	2700 ±27	1750	2735	2300 ±23		17,9	4700 ±94	4300 ±66	
18	ŁP8/V32/4/A/III	4235		2250				20,3		4800	
19	ŁP9/V32/4/A/I	3415		1320				17,4		4000	
20	ŁP9/V32/4/A/II	3915	2825 ±28	1820	2915	2475 ±25		19,9	5000 ±100	4500 ±70	550 ±28
21	ŁP9/V32/4/A/III	4415		2320				22,4		5000	
22	ŁP10/V32/4/A/I	3675		1370				20,6		4300	
23	ŁP10/V32/4/A/II	4175	3075 ±31	1870	3175	2725 ±27		23,3	5500 ±110	4800 ±76	
24	ŁP10/V32/4/A/III	4675		2370				26,1		5300	
25	ŁP11/V32/4/A/I	3830		1420				22,7		4525	
26	ŁP11/V32/4/A/II	4330	±20	3275 ±33	1920	3330 ±20	2850 ±29	25,6	5800 ±116	5025 ±81	
27	ŁP11/V32/4/A/III	4830		2420				28,5		5525	
28	ŁP12/V32/4/A/I	3970		1460				24,9		4725	
29	ŁP12/V32/4/A/II	4470	3425 ±34	1960	3470	3000 ±30		27,9	6100 ±122	5225 ±85	
30	ŁP12/V32/4/A/III	4970		2460				31,0		5725	
31	ŁP13/V32/4/A/I	4110		1490				27,2		4925	600 ±30
32	ŁP13/V32/4/A/II	4610	3625 ±36	1990	3610	3150 ±32		30,4	6400 ±128	5425 ±89	
33	ŁP13/V32/4/A/III	5110		2490				33,6		5925	
34	ŁP14/V32/4/A/I	4215		1440				29,1		5050	
35	ŁP14/V32/4/A/II	4715	3825 ±38	1940	3715	3275 ±33		32,4	6700 ±134	5550 ±91	
36	ŁP14/V32/4/A/III	5215		2440				35,8		6050	
37	ŁP15/V32/4/A/I	4330		1420				31,1		5200	
38	ŁP15/V32/4/A/II	4830	4000 ±40	1920	3830	3425 ±34		34,6	7000 ±140	5700 ±94	
39	ŁP15/V32/4/A/III	5330		2420				38,1		6200	

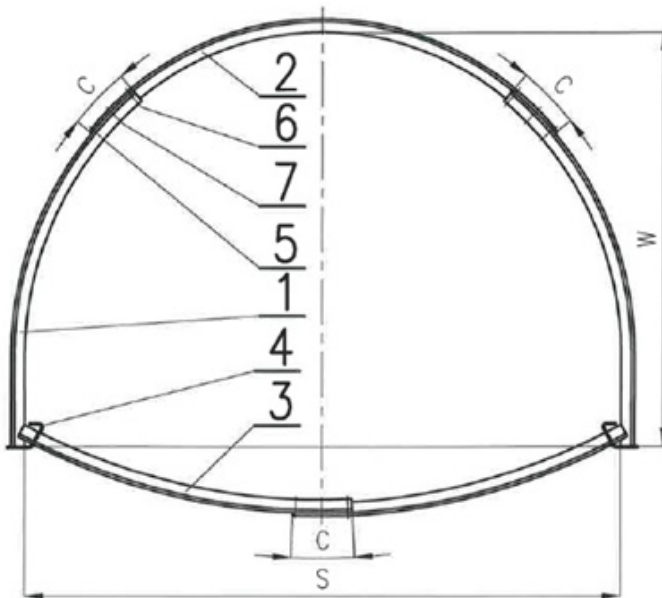
V36

Item	Designation	Wall arch			Roof arch			Cross section	S	W	C
		L ₁	R ₁	Z	L ₂	R ₂					
		mm			mm						
1	ŁP7/V36/A/I	3620		1340				13,2		3600	
2	ŁP7/V36/A/II	4120	2300 ±23	1840	3480	2030 ±20		15,3	4200 ±84	4100 ±62	
3	ŁP7/V36/A/II	4620		2340				17,4		4600	
4	ŁP8/V36/A/I	3725		1250				15,5		3800	500 ±25
5	ŁP8/V36/A/II	4224	2610 ±26	1750	3940	2260 ±23		17,8	4700 ±94	4300 ±66	
6	ŁP8/V36/A/III	4725		2250		±20		20,2		4800	
7	ŁP9/V36/A/I	3990		1320				16,8		4000	
8	ŁP9/V36/A/II	4490	2760 ±28	1820	4080	2400 ±24		19,3	5000 ±100	4500 ±70	550 ±28
9	ŁP9/V36/A/III	4990		2320				21,8		5000	
10	ŁP10/V36/A/I	4045		1370				20,4		4300	
11	ŁP10/V36/A/II	4554	3075 ±31	1870	4855	2655 ±27		23,1	5500 ±110	4800 ±76	600 ±30
12	ŁP10/V36/A/III	5045		2370				25,9		5300	
13	ŁP7/V36/4/A/I	3065		1340				13,3		3600	
14	ŁP7/V36/4/A/II	3565	2375 ±24	1840	2565	2075 ±21		15,4	4200 ±84	4100 ±62	
15	ŁP7/V36/4/A/III	4065		2340				17,5		4600	
16	ŁP8/V36/4/A/I	3235		1250				15,6		3800	500 ±25
17	ŁP8/V36/4/A/II	3735	2700 ±27	1750	2735	2300 ±23		17,5	4700 ±94	4300 ±66	
18	ŁP8/V36/4/A/III	4235		2250				20,3		4800	
19	ŁP9/V36/4/A/I	3415		1320				17,4		4000	
20	ŁP9/V36/4/A/II	3915 ±20	2825 ±28	1820	2915	2475 ±25		19,9	5000 ±100	4500 ±70	550 ±28
21	ŁP9/V36/4/A/III	4415		2320				22,4		5000	
22	ŁP10/V36/4/A/I	3675		1270				20,5		4300	
23	ŁP10/V36/4/A/II	4175	3075 ±31	1770	3175	2725 ±27		23,3	5500 ±110	4800 ±76	
24	ŁP10/V36/4/A/III	4675		2270				26,0		5300	
25	ŁP11/V36/4/A/I	3830		1420				22,7		4525	
26	ŁP11/V36/4/A/II	4330	3275 ±33	1920	3330	±20 2850 ±29		25,6	5800 ±116	5025 ±81	
27	ŁP11/V36/4/A/III	4830		2420				28,5		5525	
28	ŁP12/V36/4/A/I	3970		1460				25,0		4725	
29	ŁP12/V36/4/A/II	4470	3425 ±34	1960	3470	3000 ±30		28,0	6100 ±122	5225 ±85	
30	ŁP12/V36/4/A/III	4970		2460				31,1		5725	600 ±30
31	ŁP13/V36/4/A/I	4110		1490				27,2		4925	
32	ŁP13/V36/4/A/I	4610	3625 ±36	1990	3610	3150 ±32		30,4	6400 ±128	5425 ±89	
33	ŁP13/V36/4/A/I	5110		2490				33,6		5925	
34	ŁP14/V36/4/A/I	4215		1440				29,0		5050	
35	ŁP14/V36/4/A/II	4715	3825 ±38	1940	3715	3275 ±33		32,4	6700 ±134	5550 ±91	
36	ŁP14/V36/4/A/III	5215		2420				35,7		6050	
37	ŁP15/V36/4/A/I	4330		1420				31,1		5200	
38	ŁP15/V36/4/A/II	4830	4000 ±40	1920	3830	3425 ±34		34,6	7000 ±140	5700 ±94	
39	ŁP15/V36/4/A/III	5330		2420				38,1		6200	

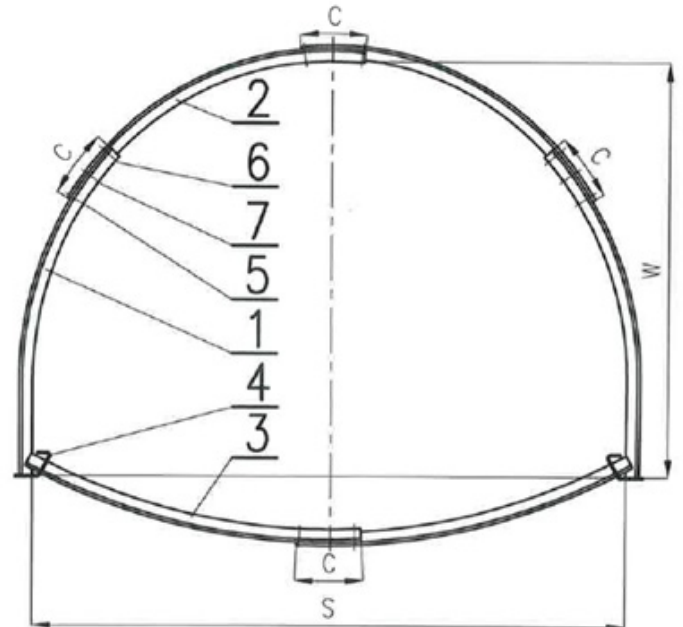
LPZ

CLOSED FLEXIBLE ROOF SUPPORTS

Odrzwia ŁPZ pięcioelementowe



Odrzwia ŁPZ sześćelementowe



V29

Item	Designation	Cross section m ²	S		W		C	
1	ŁPZ8/V29/A	13,0	4700	±94	3300	±66	500	±25
2	ŁPZ9/V29/A	14,7	5000	±100	3500	±70	550	±28
3	ŁPZ10/V29/A	17,5	5500	±110	3800	±76	550	±28
4	ŁPZ9/V29/4/A	14,9	5000	±100	3500	±70		
5	ŁPZ10/V29/4/A	17,8	5500	±110	3800	±76		
6	ŁPZ11/V29/4/A	19,8	5800	±116	4025	±81		
7	ŁPZ12/V29/4/A	21,8	6100	±122	4225	±85		
8	ŁPZ13/V29/4/A	23,9	6400	±128	4425	±89		
9	ŁPZ14/V29/4/A	25,6	6700	±134	4550	±91	600	±30
10	ŁPZ15/V29/4/A	27,6	7000	±140	4700	±94		
11	ŁPZ16/V29/4/A	29,6	7200	±144	4900	±98		
12	ŁPZ17/V29/4/A	32,1	7500	±150	5110	±102		
13	ŁPZ18/V29/4/A	34,8	7800	±156	5325	±107		
14	ŁPZ19/V29/4/A	36,6	8000	±160	5465	±109		

Item	Designation	Wall arch			Roof arch			Floor arch		
		L ₁	R ₁	Z	L ₂	R ₂	L ₃	R ₃		
		mm			mm			mm		
1	ŁPZ8/V29/A	3225	2625 ±26	760	3925	2250 ±23	2795	4295 ±43		
2	ŁPZ9/V29/A	3490	2750 ±28	820	4070	2400 ±24	2935	4815 ±48		
3	ŁPZ10/V29/A	3540	3075 ±31	830	4845	2650 ±27	3170	5750 ±57		
4	ŁPZ9/V29/4/A	2950	2750 ±28	850	2950	2475 ±25	2960	4815 ±48		
5	ŁPZ10/V29/4/A	3170	3075 ±31	870	3170	2700 ±27	3195	5750 ±57		
6	ŁPZ11/V29/4/A	3320	3250 ±33	930	3320	2850 ±29	3375	5660 ±57		
7	ŁPZ12/V29/4/A	3465	3450 ±35	960	3465	3000 ±30	3520	6215 ±62		
8	ŁPZ13/V29/4/A	3605 ±20	3650 ±37	990	3605 ±20	3150 ±32	3660 ±20	6800 ±68		
9	ŁPZ14/V29/4/A	3705	3825 ±38	940	3705	3275 ±33	3805	7415 ±74		
10	ŁPZ15/V29/4/A	3825	4025 ±40	920	3825	3400 ±34	3945	8055 ±81		
11	ŁPZ16/V29/4/A	3950	4150 ±42	1010	3950	3500 ±35	4040	8500 ±85		
12	ŁPZ17/V29/4/A	4095	4350 ±44	1040	4095	3650 ±37	4190	9190 ±92		
13	ŁPZ18/V29/4/A	4245	4550 ±46	1080	4245	3775 ±38	4330	9905 ±99		
14	ŁPZ19/V29/4/A	4340	4675 ±47	1110	4340	3975 ±39	4430	10400 ±104		

V32

Item	Designation	Cross section m ²	S		W		C	
1	ŁPZ8/V32/4/A	13,1	4700 ±94	3300 ±66	500 ±25			
2	ŁPZ9/V32/4/A	14,9	5000 ±100	3500 ±70	550 ±28			
3	ŁPZ10/V32/4/A	17,8	5500 ±110	3800 ±76				
4	ŁPZ11/V32/4/A	19,8	5800 ±116	4025 ±81				
5	ŁPZ12/V32/4/A	21,8	6100 ±122	4225 ±85				
6	ŁPZ13/V32/4/A	23,9	6400 ±128	4425 ±89				
7	ŁPZ14/V32/4/A	25,6	6700 ±134	4550 ±91				
8	ŁPZ15/V32/4/A	27,6	7000 ±140	4700 ±94	600			
9	ŁPZ16/V32/4/A	29,6	7200 ±144	4900 ±98				
10	ŁPZ17/V32/4/A	32,1	7500 ±150	5110 ±102				
11	ŁPZ18/V32/4/A	34,8	7800 ±156	5325 ±107				
12	ŁPZ19/V32/4/A	36,6	8000 ±160	5465 ±109				

Item	Designation	Wall arch			Roof arch			Floor arch	
		L ₁	R ₁	Z	L ₂	R ₂	L ₃	R ₃	
		mm			mm			mm	
1	ŁPZ8/V32/4/A	2735	2700 ±27	750	2735	2300 ±23	2775	4295 ±43	
2	ŁPZ9/V32/4/A	2915	2825 ±28	820	2915	2475 ±25	2915	4815 ±48	
3	ŁPZ10/V32/4/A	3175	3075 ±31	870	3175	2725 ±27	3175	5750 ±58	
4	ŁPZ11/V32/4/A	3330	3275 ±33	920	3330	2850 ±29	3380	5655 ±57	
5	ŁPZ12/V32/4/A	3470	3425 ±34	960	3470	3000 ±30	3525	6215 ±62	
6	ŁPZ13/V32/4/A	3610	±20 3625 ±36	990	3610	±20 3150 ±32	3665	±20 6800 ±68	
7	ŁPZ14/V32/4/A	3715	3825 ±38	940	3715	3275 ±33	3805	7415 ±74	
8	ŁPZ15/V32/4/A	3830	4000 ±40	920	3830	3425 ±34	3950	8055 ±80	
9	ŁPZ16/V32/4/A	3955	4150 ±42	1000	3955	3500 ±35	4045	8500 ±85	
10	ŁPZ17/V32/4/A	4100	4350 ±44	1040	4100	3650 ±37	4190	9190 ±92	
11	ŁPZ18/V32/4/A	4250	4550 ±46	1080	4250	3775 ±38	4335	9905 ±99	
12	ŁPZ19/V32/4/A	4350	4700 ±47	1100	4350	3875 ±39	4430	10400 ±104	

V36

Item	Designation	Cross section m ²	S		W		C	
			mm			mm		
1	ŁPZ8/V36/4/A	13,1	4700 ±94	3300 ±66	500	±25		
2	ŁPZ9/V36/4/A	14,9	5000 ±100	3500 ±70	550	±28		
3	ŁPZ10/V36/4/A	17,8	5500 ±110	3800 ±76				
4	ŁPZ11/V36/4/A	19,8	5800 ±116	4025 ±81				
5	ŁPZ12/V36/4/A	21,8	6100 ±122	4225 ±85				
6	ŁPZ13/V36/4/A	23,9	6400 ±128	4425 ±89				
7	ŁPZ14/V36/4/A	25,6	6700 ±134	4550 ±91				
8	ŁPZ15/V36/4/A	27,6	7000 ±140	4700 ±94	600	±30		
9	ŁPZ16/V36/4/A	29,6	7200 ±144	4900 ±98				
10	ŁPZ17/V36/4/A	32,1	7500 ±150	5110 ±102				
11	ŁPZ18/V36/4/A	34,8	7800 ±156	5325 ±107				
12	ŁPZ19/V36/4/A	36,6	8000 ±160	5465 ±109				

Item	Designation	Wall arch			Roof arch			Floor arch		
		L ₁	R ₁	Z	L ₂	R ₂	L ₃	R ₃		
		mm			mm			mm		
1	ŁPZ8/V36/4/A	2735	2700 ±27	750	2735	2300 ±23	2775	4295 ±43		
2	ŁPZ9/V36/4/A	2915	2825 ±28	820	2915	2475 ±25	2915	4815 ±48		
3	ŁPZ10/V36/4/A	3175	3075 ±31	870	3175	2725 ±27	3175	5750 ±58		
4	ŁPZ11/V36/4/A	3330	3275 ±33	920	3330	2850 ±29	3380	5655 ±57		
5	ŁPZ12/V36/4/A	3470	3425 ±34	960	3470	3000 ±30	3525	6215 ±62		
6	ŁPZ13/V36/4/A	3610 ±20	3625 ±36	990	3610 ±20	3150 ±32	3665 ±20	6800 ±68		
7	ŁPZ14/V36/4/A	3715	3825 ±38	940	3715	3275 ±33	3805	7415 ±74		
8	ŁPZ15/V36/4/A	3830	4000 ±40	920	3830	3425 ±34	3950	8055 ±80		
9	ŁPZ16/V36/4/A	3955	4150 ±42	1000	3955	3500 ±35	4045	8500 ±85		
10	ŁPZ17/V36/4/A	4100	4350 ±44	1040	4100	3650 ±37	4190	9190 ±92		
11	ŁPZ18/V36/4/A	4250	4550 ±46	1080	4250	3775 ±38	4335	9905 ±99		
12	ŁPZ19/V36/4/A	4350	4700 ±47	1100	4350	3875 ±39	4430	10400 ±104		

LPZS

SPECIAL CLOSED FLEXIBLE ROOF SUPPORTS

V32

Item	Designation	Wall element			Arches*			S	W	C ₁	C ₂	h
		L	R	Z	Roof el. 1	Roof el. 2	Floor el.					
		mm			designation							
1	ŁPZS7/V32	2080	2300 ±21	1500	7/V32/4	8/V32/4	8/V32/4	4310 ±86	3800 ±76	500 ±25	610 ±100	910
2	ŁPZS8/V32	2185	2475 ±23	1515	8/V32/4	9/V32/4	10/V32/4	4765 ±95	4000 ±80		1060 ±115	945
3	ŁPZS9/V32	2100	2725 ±37	1275	9/V32/4	10/V32/4	11/V32/4	5200 ±104	4100 ±82	600 ±120	1145	
4	ŁPZS10/V32	2455 ±20	2850 ±27	1660	10/V32/4	11/V32/4	12/V32/4	5560 ±110	4525 ±90	670 ±130	1200	
5	ŁPZS11/V32	2515	3000 ±29	1715	11/V32/4	12/V32/4	13/V32/4	5835 ±116	4725 ±95	600 ±30	655 ±135	1255
6	ŁPZS12/V32	2590	3150 ±30	1760	12/V32/4	13/V32/4	15/V32/4	6135 ±122	4925 ±98	790 ±140	1275	
7	ŁPZS13/V32	2625	3275 ±33	1765	13/V32/4	14/V32/4	16/V32/4	6410 ±128	5050 ±100	740 ±150	1330	

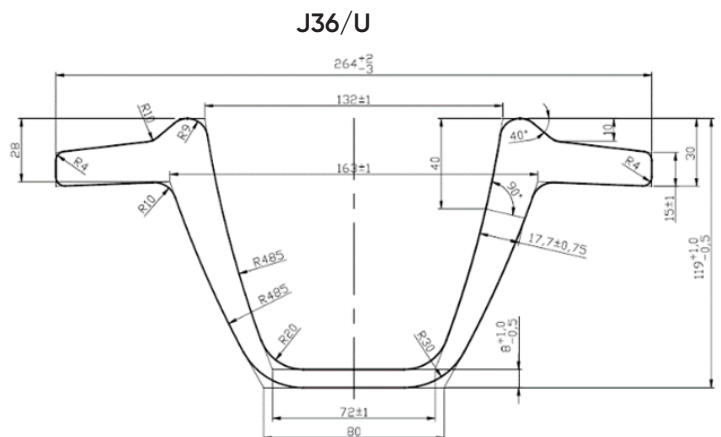
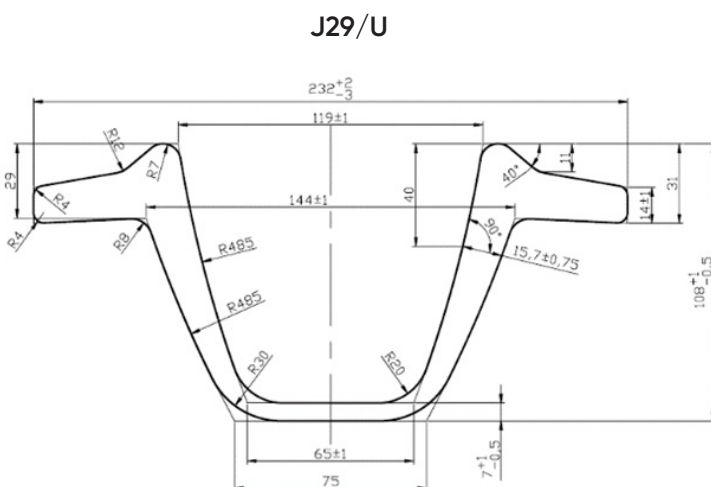
V36

Item	Designation	Wall element			Arches*			S	W	C ₁	C ₂	h
		L	R	Z	Roof el. 1	Roof el. 2	Floor el.					
		mm			designation			mm				
1	ŁPZS7/V36	2080	2300 ±21	1500	7/V32/4	8/V32/4	8/V32/4	4310 ±86	3800 ±76	500 ±25	610 ±105	910
2	ŁPZS8/V36	2185	2475 ±23	1515	8/V32/4	9/V32/4	10/V32/4	4765 ±95	4000 ±80		1060 ±115	945
3	ŁPZS9/V36	2100	2725 ±37	1275	9/V32/4	10/V32/4	11/V32/4	5200 ±104	4100 ±82	600 ±120	1145	
4	ŁPZS10/V36	2455 ±20	2850 ±27	1660	10/V32/4	11/V32/4	12/V32/4	5560 ±110	4525 ±90	670 ±130	1200	
5	ŁPZS11/V36	2515	3000 ±29	1715	11/V32/4	12/V32/4	13/V32/4	5835 ±116	4725 ±95	600 ±30	655 ±135	1255
6	ŁPZS12/V36	2590	3150 ±30	1760	12/V32/4	13/V32/4	15/V32/4	6135 ±122	4925 ±98	790 ±140	1275	
7	ŁPZS13/V36	2625	3275 ±33	1765	13/V32/4	14/V32/4	16/V32/4	6410 ±128	5050 ±100	740 ±150	1330	

Lower yokes w/o holes

Profiles

Profiles	Standard	Mass [kg/m]
J29/U	WT/S1/J.271	37,90
J36/U	WT/S1/J.271	45,40



Chemical composition

Standard	Grade	C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cr [%]
PN-H-84042	S480W	max 0,25	max 1,7	max 0,50	max 0,035	max 0,035	0,25-0,45
WT/S1/J.207	G480V	max 0,26	max 1,4	max 0,30	max 0,035	max 0,035	max 0,30
PN-89/H-84023/05	34GJ	0,30-0,38	0,70-0,95	0,15-0,30	max 0,045	max 0,045	-
DIN 21530*	31Mn4	0,28-0,36	0,80-1,10	0,20-0,50	max 0,035	max 0,035	-

Standard	Grade	Ni [%]	Cu [%]	Al [%]	V [%]	Nb [%]	Ti [%]	N [%]
PN-H-84042	S480W	max 0,30	0,25-0,45	max 0,025	max 0,15	max 0,05	max 0,04	-
WT/S1/J.207	G480V	max 0,30	max 0,30	min 0,02	max 0,12	-	-	-
PN-89/H-84023/05	34GJ	-	-	min 0,02	-	-	-	-
DIN 21530*	31Mn4	-	max 0,35	min 0,02	-	-	-	-

Mechanical properties

Standard	Grade	Re mi [Mpa]	Rm min [Mpa]	A5 min [%]	KCU2A min [J7cm2]
PN-H-84042	S480W	480	650	20	30
WT/S1/J.207	G480V	480	650	17	30
PN-89/H-84023/05	34GJ	340	550	17	30
DIN 21530*	31Mn4	350	550	11	-

Smarter steels for people and planet

For ArcelorMittal Rails & Special sections this means to make a very significant contribution to reduce global emissions, innovative mindset for our technical capabilities and focus in our customers' needs.

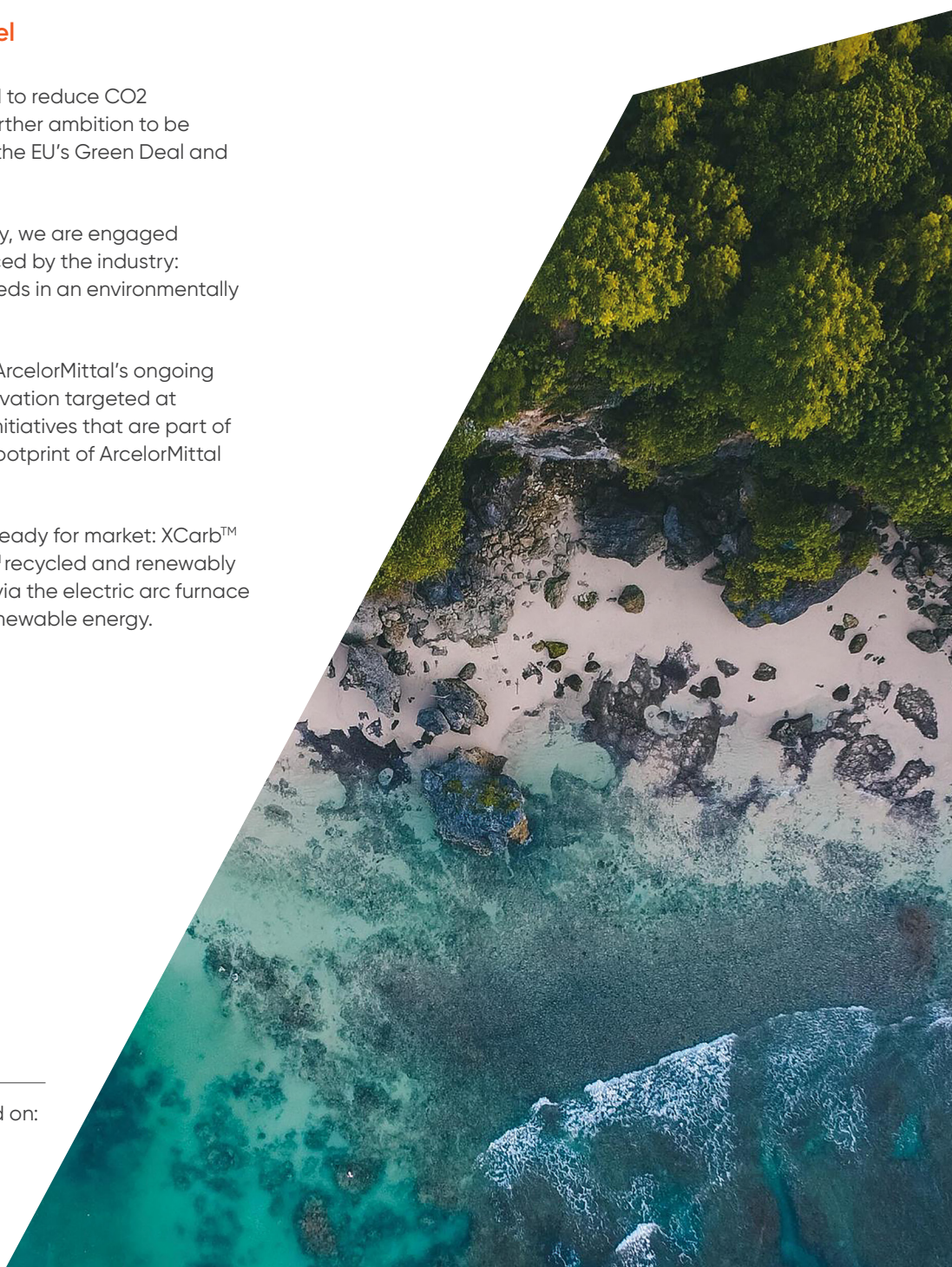
Achieving carbon neutral steel

ArcelorMittal Europe has committed to reduce CO₂ emissions by 35 % by 2030, with a further ambition to be carbon neutral by 2050, in line with the EU's Green Deal and the Paris Agreement.

As the leading global steel company, we are engaged in the most important challenge faced by the industry: producing all the steel the world needs in an environmentally sustainable way.

XCarb™ is the new brand name for ArcelorMittal's ongoing global program of steelmaking innovation targeted at carbon-neutral steel by 2050. The initiatives that are part of XCarb™ aim to reduce the carbon footprint of ArcelorMittal and of our customers.

Our first XCarb™ products are now ready for market: XCarb™ green steel certificates and XCarb™ recycled and renewably produced for steel products made via the electric arc furnace route using scrap steel and 100% renewable energy.





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