



ArcelorMittal

ArcelorMittal Rails & Special Sections



Mining sections and arch roof supports

Catalogue and technical instruction

Our Company

ArcelorMittal with over 158,000 employees across 60 countries and industrial locations in 17 countries is 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 10 000 people in six 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.



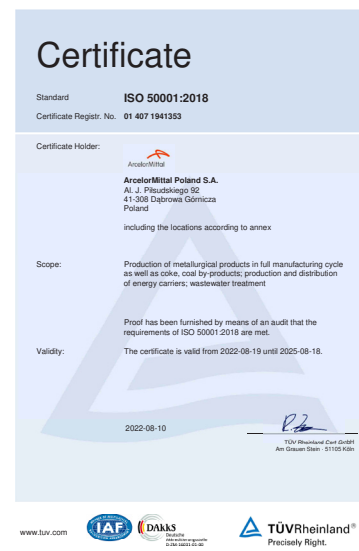
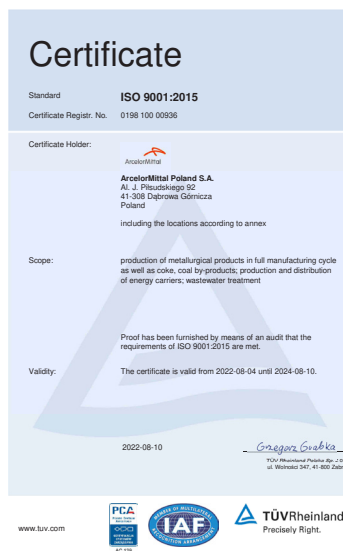
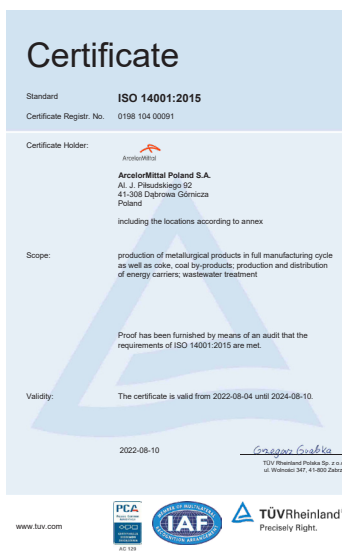
Certificates

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

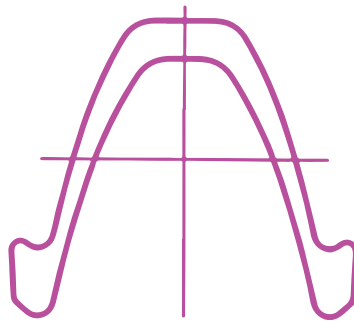


Product range

Sections for the mining industry and arch roof supports

Profiles

Profiles	Standard	Weight [kg/m%]	Section area [cm ²]	I _x [cm ⁴]	W _x [cm ³]	I _y [cm ⁴]	W _y [cm ³]
V25	PN-H-93441-3	25,00	31,7	464	74,6	540	80,0
V29	PN-H-93441-3	28,50	36,3	581	87,5	756	100,5
V32	PN-H-93441-3	32,10	40,9	838	121,4	1174	137,3
V36	PN-H-93441-3	35,50	45,2	923	127,6	1229	143,7



Chemical composition

Standard	Grade	C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cr [%]
WT/SJ/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/SJ/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	-	-	-	-

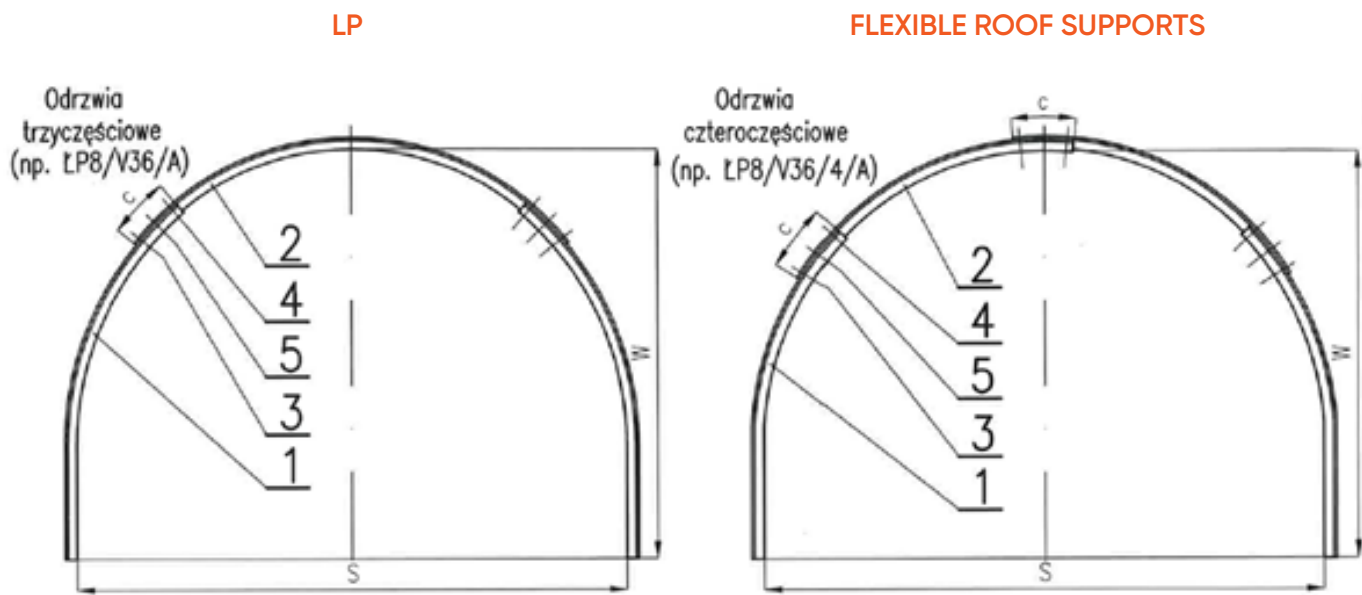
Mechanical properties

Standard	Grade	Re min [Mpa]	Rm min [Mpa]	A5 min [%]	KCU2A min [J7cm2]
WT/SJ/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	11	

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



V25

Item	Designation	Wall arch					Roof arch			Cross section	S		W		C		
		L ₁		R ₁		Z	L ₂		R ₂								
		mm		mm			mm		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	7,1	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	11,1	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	14,3	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			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	600	±30
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	3450	±35	960	3465	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		
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										
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			
3	ŁP9/V32/A	3490	2760	±28	820	4080	2400	±24	14,9	5000	±100	3500	±70			550
4	ŁP10/V32/A	3545	3075	±31	870	4855	2655	±27	17,8	5500	±110	3800	±76	600	±30	
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	±28	
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				m ²	mm				
1	ŁP7/V36/4/A	2565	2375	±24	840	2565	2075	±21	11,2	4200	±84	3100	±62	500	±25
2	ŁP8/V36/4/A	2735	2700	±27	750	2735	2300	±23	13,2	4700	±94	3300	±66		
3	ŁP9/V36/4/A	2915	2825	±28	820	2915	2475	±25	14,9	5000	±100	3500	±70	550	±28
4	ŁP10/V36/4/A	3175	3075	±31	870	3175	2725	±27	17,8	5500	±110	3800	±76	600	±30
5	ŁP11/V36/4/A	3330	3275	±33	920	3330	2850	±29	19,8	5800	±116	4025	±81		
6	ŁP12/V36/4/A	3470	3425	±34	960	3470	3000	±30	21,9	6100	±122	4225	±85		
7	ŁP13/V36/4/A	3610	±20	3625	±36	990	3610	±20	3150	±32	24,0	6400	±128	4425	±89
8	ŁP14/V36/4/A	3715	3825	±38	940	3715	3275	±33	25,7	6700	±134	4550	±91	600	±30
9	ŁP15/V36/4/A	3830	4000	±40	920	3830	3425	±34	27,6	7000	±140	4700	±94		
10	ŁP16/V36/4/A	3955	4150	±42	1000	3955	3500	±35	29,6	7200	±144	4900	±98		
11	ŁP17/V36/4/A	4100	4350	±44	1040	4100	3650	±37	32,1	7500	±150	5110	±102	600	±30
12	ŁP18/V36/4/A	4250	4550	±46	1080	4250	3775	±38	34,8	7800	±156	5325	±107		
13	ŁP19/V36/4/A	4350	4700	±47	1100	4350	3875	±39	36,7	8000	±160	5465	±109		

LPM

MIXED FLEXIBLE ROOF SUPPORTS

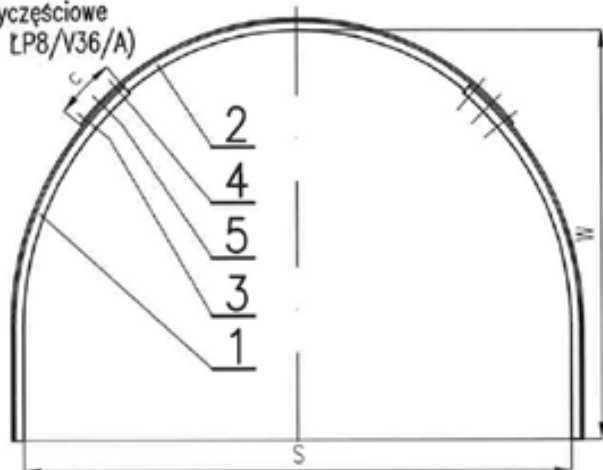
V32 and V36

Item	Designation	Wall arch				Roof arch				Cross section	S		W		C	
		L ₁	R ₁		Z	L ₂	R ₂									
		mm				mm										
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	600	±30	
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	±1140	4700	±94			
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			

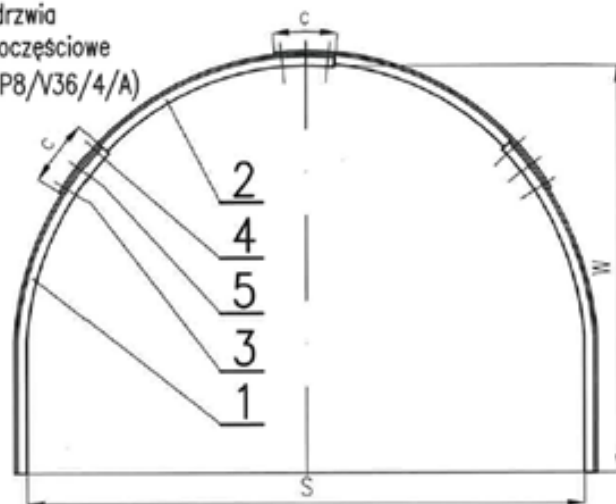
LP

ELEVATED FLEXIBLE ROOF SUPPORTS

Odrzvia
trzyzęściowe
(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						
		mm			mm					m ²	mm	
1	ŁP6/V25/A/I	3425		1490				11,4		3500		450 ±23
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			
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		500 ±25
8	ŁP8/V25/A/II	4205	2625 ±26	1760	3970	2250 ±23	17,8	4700 ±94	4300 ±66			
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			
13	ŁP10/V25/A/I	4040	±20	1330		±20		20,3		4300		550 ±28
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		600 ±30
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			
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											m ²
1	ŁP7/V29/A/I	3600			1340				13,0			3600	±72	500	±25		
2	ŁP7/V29/A/II	4100	2300	±21	1840	3470	2025	±20	15,1	4200	±84	4100	±82				
3	ŁP7/V29/A/III	4600			2340				17,2			4600	±92				
4	ŁP8/V29/A/I	3775			1260				15,2			3800	±76				
5	ŁP8/V29/A/II	4275	2625	±23	1760	3925	2250	±23	17,6	4700	±94	4300	±86				
6	ŁP8/V29/A/III	4775			2260				19,6			4800	±96				
7	ŁP9/V29/A/I	3985			1320				17,1			4000	±80	550	±28		
8	ŁP9/V29/A/II	4485	2750	±28	1820	4070	2400	±24	19,6	5000	±100	4500					
9	ŁP9/V29/A/III	4985			2320				22,1			5000	±100				
10	ŁP10/V29/A/I	4030			1330				20,1			4300	±86				
11	ŁP10/V29/A/II	4530	3075	±31	1830	4845	2650	±27	22,8	5500	±110	4800	±96				
12	ŁP10/V29/A/III	5030			2330				25,6			5300	±106				
13	ŁP9/V29/4/A/I	3445			1350				17,2			4000	±80	600	±30		
14	ŁP9/V29/4/A/II	3945	2750	±28	1850	2950	2475	±25	19,7	5000	±100	4500	±90				
15	ŁP9/V29/4/A/III	4445			2350				22,2			5000	±100				
16	ŁP10/V29/4/A/I	3660			1370				20,2			4300	±86				
17	ŁP10/V29/4/A/II	4160	±20	3075	±31	1870	3170	±20	2700	±27	23,0	5500	±110			4800	±96
18	ŁP10/V29/4/A/III	4660			2370				25,7			5300	±106				
19	ŁP11/V29/4/A/I	3820			1430				22,1			4525	±91				
20	ŁP11/V29/4/A/II	4320	3250	±33	1930	3320	2850	±29	24,8	5800	±118	5025	±101				
21	ŁP11/V29/4/A/III	4820			2430				28,1			5525	±111				
22	ŁP12/V29/4/A/I	3965			1460				24,2			4725	±95				
23	ŁP12/V29/4/A/II	4465	3450	±35	1960	3465	3000	±30	27,0	6100	±122	5225	±105				
24	ŁP12/V29/4/A/III	4965			2460				30,4			5725	±115				
25	ŁP13/V29/4/A/I	4105			1490				26,5			4925	±99				
26	ŁP13/V29/4/A/II	4605	3650	±37	1990	3605	3150	±32	29,4	6400	±128	5425	±109				
27	ŁP13/V29/4/A/III	5105			2490				32,9			5925	±119				
28	ŁP14/V29/4/A/I	4205			1440				28,2			5050	±101				
29	ŁP14/V29/4/A/II	4705	3825	±38	1940	3705	3275	±33	31,3	6700	±134	5550	±111				
30	ŁP14/V29/4/A/III	5205			2440				34,8			6050	±121				
31	ŁP15/V29/4/A/I	4325			1420				30,2			5200	±104				
32	ŁP15/V29/4/A/II	4825	4025	±40	1920	3825	3400	±34	33,3	7000	±140	5700	±114				
33	ŁP15/V29/4/A/III	5325			2420				36,9			6200	±124				

V32

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	ŁP7/V32/A/I	3620			1340				13,3			3600	±72	500	±25		
2	ŁP7/V32/A/II	4120	2300	±23	1840	3480	2030	±20	15,4	4200	±84	4100	±82				
3	ŁP7/V32/A/III	4620			2340				17,5			4600	±94				
4	ŁP8/V32/A/I	3725	±20		1250	±20			15,6			3800	±78				
5	ŁP8/V32/A/II	4225		2610	±26		1750	3940	2260	±23	17,9	4700	±94			4300	±88
6	ŁP8/V32/A/III	4725					2250				19,4					4800	±98
7	ŁP9/V32/A/I	3990			1320				17,4			4000	±80	550	±28		
8	ŁP9/V32/A/II	4490	2760	±28	1820	4080	2400	±24	19,9	5000	±100	4500	±90				
9	ŁP9/V32/A/III	4990			2320				22,4			5000	±100				
10	ŁP10/V32/A/I	4045	±20		1370	±20			20,6			4300	±86	600	±30		
11	ŁP10/V32/A/II	4545		3075	±31		1870	4855	2655	±27	23,3	5500	±110			4800	±96
12	ŁP10/V32/A/III	5045					2370				26,1					5300	±106
13	ŁP7/V32/4/A/I	3065	±20		1340	±20			13,26			3600	±72	500	±25		
14	ŁP7/V32/4/A/II	3565		2375	±24		1840	2565	2075	±21	15,36	4200	±84			4100	±82
15	ŁP7/V32/4/A/III	4065					2340				17,46					4600	±94
16	ŁP8/32/4/A/I	3235					1250				15,50					3800	±78
17	ŁP8/32/4/A/II	3735		2700	±27		1750	2735	2300	±23	17,85	4700	±94			4300	±88
18	ŁP8/32/4/A/III	4235					2250				20,20					4800	±98
19	ŁP9/V32/4/A/I	3415	±20		1320	±20			17,35			4000	±80	550	±28		
20	ŁP9/V32/4/A/II	3915		2825	±28		1820	2915	2475	±25	19,85	5000	±100			4500	±90
21	ŁP9/V32/4/A/III	4415					2320				22,35					5000	±100
22	ŁP10/V32/4/A/I	3675	±20		1370	±20			20,52			4300	±86	600	±30		
23	ŁP10/V32/4/A/II	4175		3075	±31		1870	3175	2725	±27	23,27	5500	±110			4800	±96
24	ŁP10/V32/4/A/III	4675					2370				26,02					5300	±106
25	ŁP11/V32/4/A/I	3830	±20		1420	±20			22,70			4525	±91	600	±30		
26	ŁP11/V32/4/A/II	4330		3275	±33		1920	3330	2850	±29	25,30	5800	±116			5025	±101
27	ŁP11/V32/4/A/III	4830					2420				28,20					5525	±111
28	ŁP12/V32/4/A/I	3970	±20		1460	±20			24,87			4725	±95	600	±30		
29	ŁP12/V32/4/A/II	4470		3425	±34		1960	3470	3000	±30	27,92	6100	±122			5225	±105
30	ŁP12/V32/4/A/III	4970					2460				30,97					5725	±115
31	ŁP13/V32/4/A/I	4110	±20		1490	±20			27,15			4925	±99	600	±30		
32	ŁP13/V32/4/A/II	4610		3625	±36		1990	3610	3150	±32	30,35	6400	±128			5425	±109
33	ŁP13/V32/4/A/III	5110					2490				33,55					5925	±119
34	ŁP14/V32/4/A/I	4215	±20		1440	±20			29,01			5050	±101	600	±30		
35	ŁP14/V32/4/A/II	4715		3825	±38		1940	3715	3275	±33	32,36	6700	±134			5550	±111
36	ŁP14/V32/4/A/III	5215					2440				35,71					6050	±121
37	ŁP15/V32/4/A/I	4330	±20		1420	±20			31,11			5200	±104	600	±30		
38	ŁP15/V32/4/A/II	4830		4000	±40		1920	3830	3425	±34	34,61	7000	±140			5700	±114
39	ŁP15/V32/4/A/III	5330					2420				38,11					6200	±124

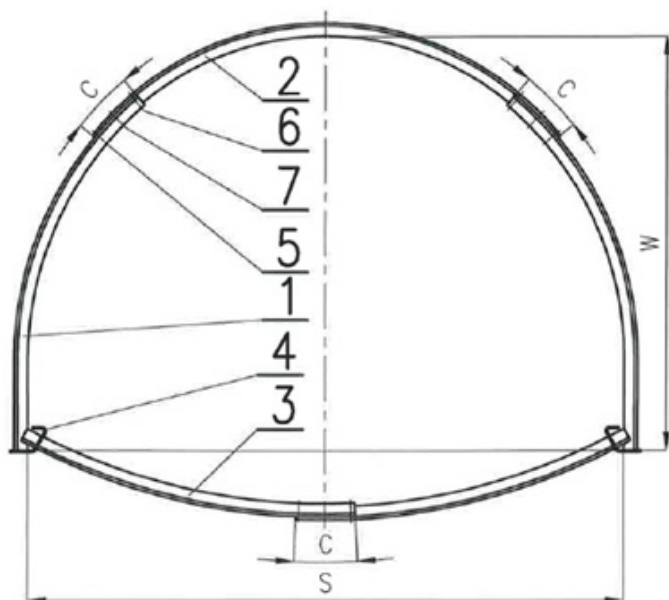
V36

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	ŁP7/V36/A/I	3620	±72			1340				13,3			3600	±72	500	±25	
2	ŁP7/V36/A/II	4120	±82	2300	±23	1840	3480		2030	±20	15,4	4200	±84	4100			±82
3	ŁP7/V36/A/II	4620	±92			2340					17,5			4600			±94
4	ŁP8/V36/A/I	3725	±74			1250					15,6			3800			±78
5	ŁP8/V36/A/II	4224	±84	2610	±26	1750	3940		2260	±23	17,9	4700	±94	4300			±88
6	ŁP8/V36/A/III	4725	±94			2250		±20			19,4			4800			±98
7	ŁP9/V36/A/I	3990	±80			1320					17,4			4000	±80	550	±28
8	ŁP9/V36/A/II	4490	±90	2760	±28	1820	4080		2400	±24	19,9	5000	±100	4500	±90		
9	ŁP9/V36/A/III	4990	±100			2320					22,4			5000	±100		
10	ŁP10/V36/A/I	4045	±80			1370					20,6			4300	±86	600	±30
11	ŁP10/V36/A/II	4554	±90	3075	±31	1870	4855		2655	±27	23,3	5500	±110	4800	±96		
12	ŁP10/V36/A/III	5045	±100			2370					26,1			5300	±106		
13	ŁP7/V36/4/A/I	3065				1340					13,26			3600	±72	500	±25
14	ŁP7/V36/4/A/II	3565		2375	±24	1840	2565		2075	±21	15,36	4200	±84	4100	±82		
15	ŁP7/V36/4/A/III	4065				2340					17,46			4600	±94		
16	ŁP8/V36/4/A/I	3235				1250					15,50			3800	±78		
17	ŁP8/V36/4/A/II	3735		2700	±27	1750	2735		2300	±23	17,85	4700	±94	4300	±88		
18	ŁP8/V36/4/A/III	4235				2250					20,20			4800	±98		
19	ŁP9/V36/4/A/I	3415				1320					17,35			4000	±80	550	±28
20	ŁP9/V36/4/A/II	3915		2825	±28	1820	2915		2475	±25	19,85	5000	±100	4500	±90		
21	ŁP9/V36/4/A/III	4415				2320					22,35			5000	±100		
22	ŁP10/V36/4/A/I	3675				1370					20,52			4300	±86	600	±30
23	ŁP10/V36/4/A/II	4175		3075	±31	1870	3175		2725	±27	23,27	5500	±110	4800	±96		
24	ŁP10/V36/4/A/III	4675				2370					26,02			5300	±106		
25	ŁP11/V36/4/A/I	3830				1420					22,70			4525	±91	600	±30
26	ŁP11/V36/4/A/II	4330	±20	3275	±33	1920	3330	±20	2850	±29	25,30	5800	±116	5025	±101		
27	ŁP11/V36/4/A/III	4830				2420					28,20			5525	±111		
28	ŁP12/V36/4/A/I	3970				1460					24,87			4725	±95		
29	ŁP12/V36/4/A/II	4470		3425	±34	1960	3470		3000	±30	27,92	6100	±122	5225	±105		
30	ŁP12/V36/4/A/III	4970				2460					30,97			5725	±115		
31	ŁP13/V36/4/A/I	4110				1490					27,15			4925	±99	600	±30
32	ŁP13/V36/4/A/I	4610		3625	±36	1990	3610		3150	±32	30,35	6400	±128	5425	±109		
33	ŁP13/V36/4/A/I	5110				2490					33,55			5925	±119		
34	ŁP14/V36/4/A/I	4215				1440					29,01			5050	±101		
35	ŁP14/V36/4/A/II	4715		3825	±38	1940	3715		3275	±33	32,36	6700	±134	5550	±111		
36	ŁP14/V36/4/A/III	5215				2420					35,71			6050	±121		
37	ŁP15/V36/4/A/I	4330				1420					31,11			5200	±104	600	±30
38	ŁP15/V36/4/A/II	4830		4000	±40	1920	3830		3425	±34	34,61	7000	±140	5700	±114		
39	ŁP15/V36/4/A/III	5330				2420					38,11			6200	±124		

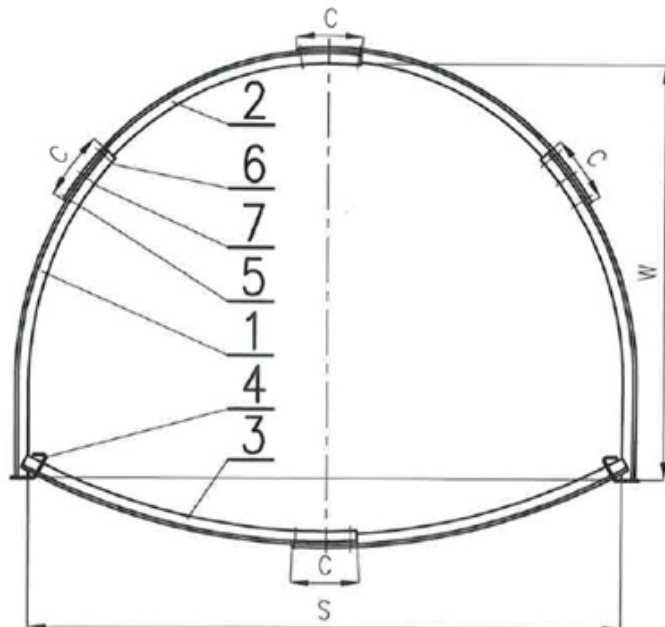
LPZ

CLOSED FLEXIBLE ROOF SUPPORTS

Odrzwia ŁPZ pięcioelementowe



Odrzwia ŁPZ sześćelementowe



V29

Item	Designation	Floor arch		S	W	T	C				
		L	R								
		mm									
1	ŁPZ8/V29/A	2795	4295	±43	4700	±94	3300	±66	700	500	±18
2	ŁPZ9/V29/A	2935	4815	±48	5000	±100	3500	±70		550	±28
3	ŁPZ10/V29/A	3170	5750	±57	5500	±110	3800	±76			
4	ŁPZ9/V29/4/A	3960	4815	±48	5000	±100	3500	±70		600	±30
5	ŁPZ10/V29/4/A	3195	5750	±57	5500	±110	3800	±76			
6	ŁPZ11/V29/4/A	3375	5660	±57	5800	±116	4025	±81			
7	ŁPZ12/V29/4/A	3520	6215	±62	6100	±122	4225	±85			
8	ŁPZ13/V29/4/A	3660	6800	±68	6400	±128	4425	±89			
9	ŁPZ14/V29/4/A	3805	7415	±74	6700	±134	4550	±91			
10	ŁPZ15/V29/4/A	3945	8055	±81	7000	±140	4700	±94			
11	ŁPZ16/V29/4/A	4040	8500	±85	7200	±144	4900	±98			
12	ŁPZ17/V29/4/A	4190	9190	±92	7500	±150	5110	±102			
13	ŁPZ18/V29/4/A	4330	9905	±99	7800	±156	5325	±107			
14	ŁPZ19/V29/4/A	4430	10400	±104	8000	±160	5465	±109			

V32

Item	Designation	Cross section	S		W		T	C	
			m²		mm				
1	ŁPZ8/V32/4/A	13,2	4700	±94	3300	±66	700	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		600	±30
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	24,0	6400	±128	4425	±89			
7	ŁPZ14/V32/4/A	25,7	6700	±134	4550	±91			
8	ŁPZ15/V32/4/A	27,6	7000	±140	4700	±94			
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	36,7	8000	±160	5465	±109			

Item	Designation	47Wall arch			Roof arch			Floor arch		
		L ₁	R ₁	Z	L ₂	R ₂				
		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	3625	±36	990	3610	3150	±32	3665	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	Floor arch			S	W	T	C			
		L	R								
		mm							mm		
1	ŁPZ8/V36/4/A	2775	4295	±43	4700	±94	3300	±66	500	±25	
2	ŁPZ9/V36/4/A	2915	4815	±48	5000	±100	3500	±70	700	±28	
3	ŁPZ10/V36/4/A	3175	5750	±56	5500	±110	3800	±76			
4	ŁPZ11/V36/4/A	3380	5655	±57	5800	±116	4025	±81			
5	ŁPZ12/V36/4/A	3525	6215	±62	6100	±122	4225	±85	800	600	±30
6	ŁPZ13/V36/4/A	3665	6800	±68	6400	±128	4425	±89			
7	ŁPZ14/V36/4/A	3805	7415	±74	6700	±134	4550	±91			
8	ŁPZ15/V36/4/A	3950	8055	±80	7000	±140	4700	±94			
9	ŁPZ16/V36/4/A	4045	8500	±85	7200	±144	4900	±98			
10	ŁPZ17/V36/4/A	4190	9190	±92	7500	±150	5110	±102	800	600	±30
11	ŁPZ18/V36/4/A	4335	9905	±99	7800	±156	5325	±107			
12	ŁPZ19/V36/4/A	4430	10400	±104	8000	±160	5465	±109			

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	Roof el.										
		mm			designation					mm							
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 ±30	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		655	±135	1255	
6	ŁPZS12/V32	2590	3150	±30	1760	12/V32/4	13/V32/4	15/V32/4	6135	±122	4925	±98	740 ±150	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

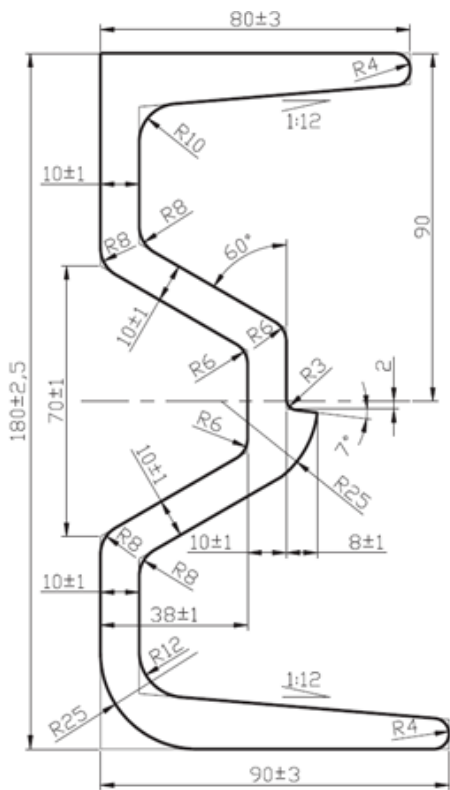
Item	Designation	Wall element				Arches*			S	W	C ₁	C ₂	h				
		L	R	Z	Roof el. 1	Roof el. 2	Roof el.										
		mm			designation			mm									
1	ŁPZS7/V36	2080	2300	±21	1500	7/V32/4	8/V32/4	8/V32/4	4310	±86	3800	±76	500 ±25	610	±105	910	
2	ŁPZS8/V36	2185	2475	±23	1515	8/V32/4	9/V32/4	10/V32/4	4765	±95	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 ±30	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		655	±135	1255	
6	ŁPZS12/V36	2590	3150	±30	1760	12/V32/4	13/V32/4	15/V32/4	6135	±122	4925	±98	740 ±150	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	

Sections for conveyors

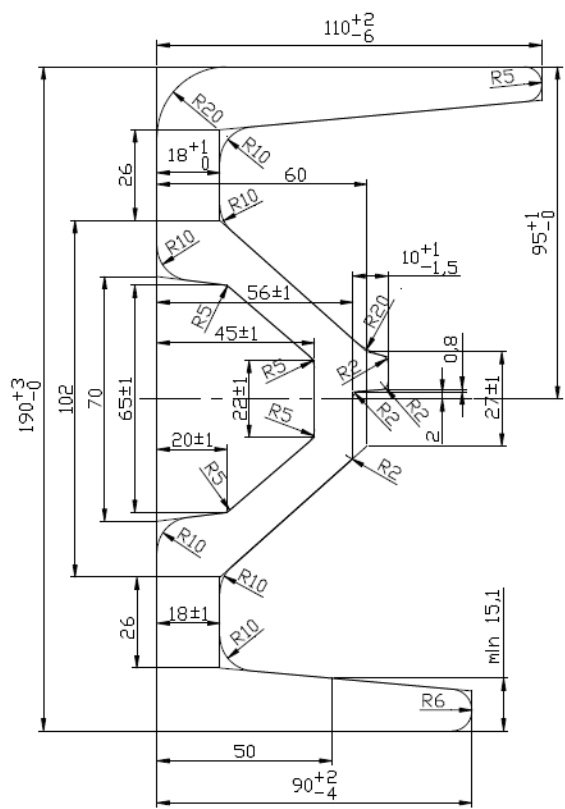
Profiles

Profiles	Standard	Weight [kg/m]
E180	PN-H-93441-7	29,36
E190A	PN-H-93441-7	47,60
E230	PN-H-93441-7	80,50
E260	PN-H-93441-7	103,75

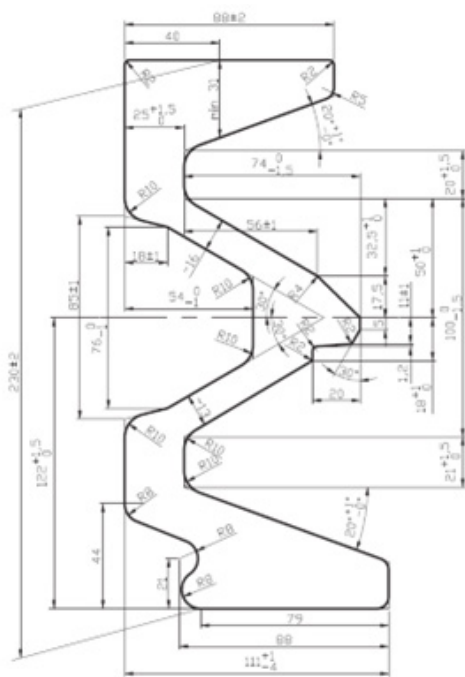
E180



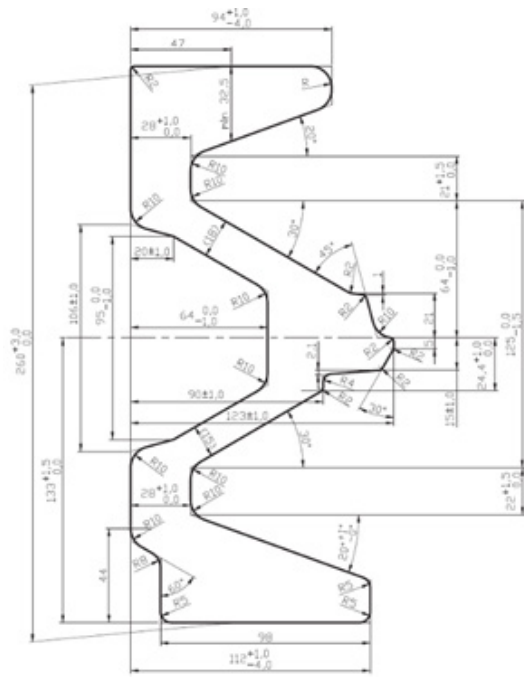
E190A



E230



E260



Chemical composition

Standard	Grade	C [%]	Mn [%]	Si [%]	P [%]	S [%]	Cr [%]
PN-89/H-84023/05	25G2	0,20-0,29	1,10-1,60	0,20-0,40	max 0,030	max 0,040	Max 0,30

Standard	Grade	Ni [%]	Cu [%]	Al [%]	V [%]	Nb [%]	Ti [%]	N [%]
PN-89/H-84023/05	25G2	25G2	max 0,30	-	-	-	-	-

Mechanical properties

Standard	Grade	Re mi [Mpa]	Rm min [Mpa]	A5 min [%]	KCU2A min [J7cm2]
PN-89/H-84023/05	25G2	340	550	18	30

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

Technical drawing of a mechanical part with dimensions and tolerances. The drawing shows a symmetrical profile with various radii and angles. Key dimensions include:

- Overall width: 232^{+2}_{-3}
- Top width: 119 ± 1
- Inner width: 144 ± 1
- Bottom width: 65 ± 1
- Overall height: $108^{+1}_{-0.5}$
- Top left height: 29
- Top right height: 31
- Inner height: 40
- Bottom height: $7^{+1}_{-0.5}$
- Radii: $R4$, $R12$, $R7$, $R8$, $R485$, $R20$
- Angles: 40° , 30°
- Other dimensions: $15,7 \pm 0,75$, 14 ± 1

[illegible]

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.

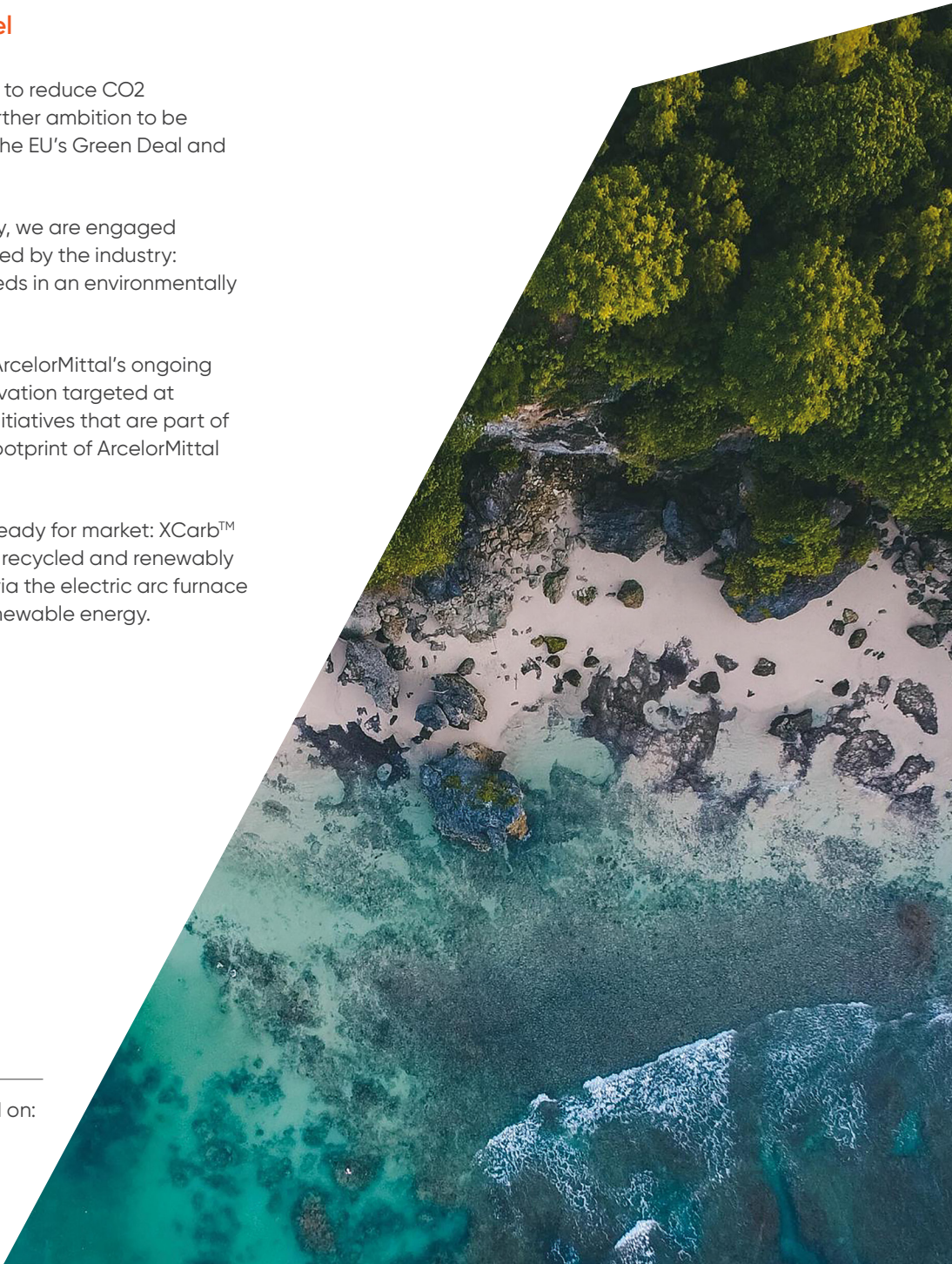
XCarb™ is the new brand name for ArcelorMittal's ongoing global program of steelmaking innovation targeted at carbon-neutral steel by 2050. The initiatives that are part of XCarb™ aim to reduce the carbon footprint of ArcelorMittal and of our customers.

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.

Additional information can be found on:

rails.arcelormittal.com

2023

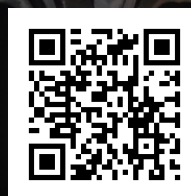




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