

Excellent low temperature impact toughness in both the as welded and stress-relieved conditions. Used with D.C. (-).

CITOFLUX B690C is a basic flux cored wire with excellent mechanical properties, suitable in welding application of 690 MPa high yield strength steels. The weld metal has a specific defined chemical composition as to ensure high level of mechanical properties combined with a very low sensitivity towards cracking. Stable arc, spatter-free both in the flat and vertical positions. Deposits a low amount of diffusible hydrogen < 5ml/100g.

Classification	
AWS	A5.29: E 121T5-GC
AWS	A5.36: E12 1T5-C1A8-G
AWS	A5.36M: E83 1 T5-C1A6-G

Approvals	Grade
ABS	5Y690 MS H5
DNV-GL	
LRS	

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Cr	Ni	Mo	Al
0.09	1.3	0.02	≤ 0.007	≤ 0.003	0.3	3.85	0.2	0.35

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation	Impact Energy ISO - V (J)
				-60 °C
620X2h	>670	740-850	≥ 15	>47
As Welded	>690	770-940	≥ 17	>47

Gas test: 100% CO₂

Shielding Gas - EN ISO 14175 : C1

Materials

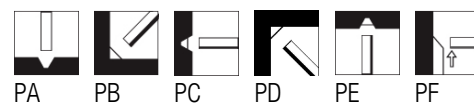
S620, S690, HY 100

Storage

Keep dry and avoid condensation

Current condition and welding position

DC-



CITOFLEX M20 is a metal cored wire containing nickel, for welding in all positions. Main applications: Off-shore fabrications, pipework, pressure vessels, shipbuilding (LPG tankers, ice breakers). CITOFLEX M 20 can be used for automatic multi-run welding. Diffusible hydrogen <3ml/100g of deposited weld metal.

Classification	
EN ISO	17632-A: T 46 6 Mn1Ni M M 1 H5
EN ISO	17632-B: T556T15-1MA-N1-UH5
AWS	A5.18: E70C-GM H4
AWS	A5.36: E71T15-M21A8-G-H4

Approvals	Grade
DNV	VYMS
CE	

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Ni
0.05	1.45	0.9	≤ 0.010	≤ 0.010	0.8

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)
				-60°C °C
As Welded	≥ 460	530-680	≥ 26	≥ 80

Gas test: 82% Ar+18% CO2

Shielding Gas - EN ISO 14175 : M21

Materials

S(P)275-S(P)460

Storage

Keep dry and avoid condensation

Current condition and welding position

DC+



Packaging data

Packaging Type	B300
Diam(mm) / weight(kg)	16.0
1.2	W000281061
1.4	W000281062
1.6	W000281063

Closed-shape flux-cored wire electrode with rutile, fast-freezing slag for gas-shielded metal arc welding of unalloyed steels for operating temperatures from -40°C up to +450°C in all welding positions with spray arc featuring increased welding parameters and increased deposition rates. Very good slag removal, smooth seam surface without undercutting into the base metal. Very good mechanical property in as welded and after PWHT. Can be welded in all positions with one setting of parameters. Very well suited for use on ceramic weld pool backing. To be used under CO₂ as shielding gas.

Rutile strip flux cored wire used in all positions for highly stressed welds in shipyards and mechanical structures. Excellent mechanical characteristics with resilience at -40°C.

Classification	
EN ISO	17632-A: T 46 4 P C 1 H5
AWS	A5.20: E71T-12C JH4
AWS	A5.20: E71T-1C JH4
AWS	A5.36: E71T1-C1A4-CS1-H4

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Ni
0.06	1.2	0.4	≤ 0.015	≤ 0.015	0.4

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)	
				-40 °C	-50 °C
As Welded	≥ 460	510-610	≥ 24	≥ 80	≥ 47
580 °C x 2 h/f.	≥ 460	510-610	≥ 24	≥ 80	


Gas test: 100% CO₂

Shielding Gas - EN ISO 14175 : C1

Materials

S(P)235-S(P)460, GP240-GP280

Storage
Keep dry and avoid condensation

Current condition and welding position
DC+


Packaging data

Packaging Type	B300	S200
Diam(mm) / weight(kg)	16	5
1.2	W000281150	W000281149

CITOFLUX R00 Ni is folded rutile flux-cored wire for gas-shielded metal arc welding of unalloyed steels for operating temperatures from -40°C up to +450°C in all welding positions. The weld pool is easily controllable with outstanding welding properties. The enhanced filling results in increased current carrying capacity and hence deposition rate, thus essentially increasing welding speed, leading to savings of time and costs. Low spatter loss and easy slag removal result in smooth and finely rippled welds without undercut. Can be used in manual and fully-mechanised processes, very well suited for use on ceramic backing. Preferably used under mixed gas. The use of CO₂ is possible.

Rutile strip flux cored wire used in all positions for highly stressed welds in shipyards and mechanical structures. Excellent mechanical characteristics with resilience at -40°C.

Classification		Approvals	Grade
EN ISO	17632-A: T 46 4 1Ni P C 1 H5	ABS	4Y400SAH5
EN ISO	17632-A: T 46 4 1Ni P M 1 H5	BV	SA3YMH5
EN ISO	17632-B: T554T1-1CA-N1-UH5	DB	●
EN ISO	17632-B: T554T1-1MA-N1-UH5	DNV	IV Y40MS H5
AWS	A5.29: E81T1-GC-H4	LRS	4Y40 H5
AWS	A5.29: E81T1-GM-H4	RINA	4Y40SH5
AWS	A5.36: E81T1-C1A4-G-H4		
AWS	A5.36: E81T1-M21A4-G-H4		

CE

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Ni
0.06	1.2	0.4	≤ 0.015	≤ 0.015	0.7

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)
				-40 °C
As Welded (*)	≥ 460	570-680	≥ 24	≥ 80
As Welded (**)	≥ 460	550-590	≥ 23	≥ 47

Gas test: (*) 82% Ar+18% CO₂, (**) CO₂

Shielding Gas - EN ISO 14175 : C1, M21

Materials

S(P)235-S(P)460, GP240-GP280

Storage

Keep dry and avoid condensation

Current condition and welding position

DC+



MIG/MAG Cored Wires
C-Mn and low-alloy steels

Packaging data

Packaging Type	B300	S200
Diam(mm) / weight(kg)	16	5
1.2	W000281150	W000281149

CITOFLUX R82 is a folded rutile flux cored wire with excellent all-positional weldability. Suitable for the welding of fine-grain structural steels for operating temperatures from -50°C up to +450°C. Very good slag removal, smooth seam surface without undercutting into the base metal. Very good mechanical property values and highly X-ray proof. Can be welded in all positions with one setting of parameters. Ideal for offshore and naval shipyard applications. To be used with Ar/CO₂ gas shielding.

Rutile flux cored excellent weldability in all positions.
Ideal for offshore and shipyard applications in low temperature -40°C.

Classification	
EN ISO	17632-A: T 46 5 1Ni P M 1 H5
EN ISO	17632-B: T555T1-1MA-N1-UH5
AWS	A5.29: E81T1-Ni1M-H4
AWS	A5.36: E81T1-M21A6-Ni1-H4

Approvals	Grade
ABS	4Y400SA H5
DNV	VY46MS H5
LRS	4Y40S H5

CE

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Ni
0.05	1.3	0.4	≤ 0.010	≤ 0.010	0.85

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)	
				-40 °C	-50 °C
As Welded	≥ 460	550-690	≥ 22	≥ 80	≥ 60

Gas test: 82% Ar+18% CO₂

Shielding Gas - EN ISO 14175 : M21

Materials

S(P)235-S(P)460, GP240-GP280

Storage

Keep dry and avoid condensation

Current condition and welding position

DC+



Packaging data

Packaging Type	B300	B300XVP
Diam(mm) / weight(kg)	16	16
1.2	W000281158	W000370144

CITOFLUX R82SR is a folded rutile flux cored wire for all-positional welding with good iMPact toughness at -60°C (as welded and after PWHT). Very easy to use for vertical up welding. Suitable for the welding of fine-grain structural steels for low temperature applications. Can be welded in all positions with one setting of parameters. To be use under mix gas. Ideal for offshore, naval shipbuilding, bridges and structures and pressure vessel applications. Good CTOD toughness.

Rutile flux cored excellent weldability in all positions.
Ideal for offshore and shipyard applications in low temperature -60°C.

Classification		Approvals	Grade
EN ISO	17632-A: T 46 6 1Ni P M 1 H5	ABS	4Y400SA H5
EN ISO	17632-B: T556T1-1MA-N1-UH5	DNV	VY46MS H5
AWS	A5.29: E81T1-Ni1M-H4	LRS	4Y40S H5
AWS	A5.36: E81T1-M21P8-Ni1-H4	CE	

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Ni
0.07	1.35	0.3	≤ 0.015	≤ 0.015	0.8

All-weld metal Mechanical Properties


Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)
				-60 °C
As Welded	≥ 470	550-680	≥ 22	≥ 47
590 °C /2h	≥ 470	550-680	≥ 22	≥ 47

Gas test: 82% Ar+18% CO2

Shielding Gas - EN ISO 14175 : M21

Materials

S(P)235-S(P)460, GP240-GP280

Storage	Current condition and welding position
Keep dry and avoid condensation	DC+
	

Packaging data

Packaging Type	B300
Diam(mm) / weight(kg)	16
1.2	W000281161

CITOFLUX R83C is a folded rutile flux cored wire with excellent all-positional weldability. Suitable for the welding of fine-grain structural steels for operating temperatures from -60°C up to +450°C. Very good slag removal, smooth seam surface without undercutting into the base metal. Very good mechanical property values and highly X-ray proof. Can be welded in all positions with one setting of parameters. Ideal for offshore and naval shipyard applications. To be used with CO₂ gas shielding..

Classification

EN ISO	17732-A: T 46 6 1Ni P C 1 H5
AWS	5.29: E81T1-Ni1C
AWS	A5.36: E81T1-C1A8-Ni1H4

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Ni
0.05	1.2	0.4	<0.014	<0.014	0.85

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)	
				-40 °C	-60 °C
As Welded	Min. 470	550 - 680	Min. 20		Min. 47
PWHT 620°C x 2h	Min. 470	550 - 680	Min. 20	Min 47	

Gas test: CO₂

Shielding Gas - EN ISO 14175 : C1

Storage

Keep dry and avoid condensation

Current condition and welding position

DC+



Packaging data

Packaging Type	B300
Diam(mm) / weight(kg)	16
1.2	●

CITOFLUX R83 is a folded rutile flux cored wire with excellent all-positional weldability. Suitable for the welding of fine-grain structural steels for operating temperatures from -60°C up to +450°C. Very good slag removal, smooth seam surface without undercutting into the base metal. Very good mechanical property values and highly X-ray proof. Can be welded in all positions with one setting of parameters. Ideal for offshore and naval shipyard applications. To be used with Mix gas shielding..

Classification	
EN ISO	17732-A: T 46 6 1Ni P M 1 H5
AWS	A5.29: E81T1-Ni1
AWS	A5.36: E81T1-M21G-Ni1-H4

Approvals	Grade
ABS	5Y46S H5
DNV	VY 46MS (H5)

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Ni
0.05	1.3	0.3	<0.014	<0.014	0.9








All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)	
				-40 °C	-60 °C
As Welded	Min. 470	550 - 680	Min. 20		Min. 47
PWHT 620°C x 2h	Min. 470	550 - 680	Min. 20	Min. 47	

Gas test: M21

Shielding Gas - EN ISO 14175 : M21

Storage
Keep dry and avoid condensation

Current condition and welding position						
DC+						
						
PA	PB	PC	PD	PE	PF	PG

Packaging data

Packaging Type	B300
Diam(mm) / weight(kg)	16
1.2	●

CITOFLUX R550 is rutile cored wire for the welding of high-strength fine grain structural steels with minimum yield strength of 550 MPa. Very good slag removal, smooth seam surface without undercutting into the base metal. Can be used in manual and fully-mechanised processes for example with orbital or vertical guiding device. Can be welded in all positions with one setting of parameters! Used under mixed gas as shielding gas only.

Rutile flux cored excellent weldability in all positions.
Ideal for offshore and shipyard applications in low temperature -40°C.

Classification		Approvals	Grade
EN ISO	18276-A: T55 5 Mn1,5Ni P M 1 H5	DNV	VY55MS H5
AWS	A5.29: E91T1-G M H4	CE	
AWS	A5.36: E91T1-M21A6-G-H4		

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Ni
0.07	1.3	0.4	≤ 0.015	≤ 0.015	1.5

All-weld metal Mechanical Properties


Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)
				-50 °C
As Welded	≥ 550	620-760	≥ 20	≥ 47

Gas test: 82% Ar+18% CO2

Shielding Gas - EN ISO 14175 : M21

Materials

S(P)460, S(P)500, S550, HY 80, API 5L X65 / 70 / 80

Storage	Current condition and welding position
Keep dry and avoid condensation	DC+
	

Packaging data

Packaging Type	B300
Diam(mm) / weight(kg)	16
1.2	W000275204

CITOFLUX R620 is a rutile flux cored wire with excellent all-positional weldability. Suitable for welding of high-strength fine grain structural steels with minimum yield strength of 620 MPa. Low spatter with easy slag removal and regular bead appearance. Ideal for offshore and naval shipyard applications. Adapted for high heat input procedures. Exceptional weldability in particular for pipe welding in vertical up position.

Classification

EN ISO	18276-A: T 62 4 1NiMo P M 1 H5
EN ISO	18276-B: T695T1-1MA-N2M2-H5
AWS	A5.29: E91T1-G H4
AWS	A5.36: E91T1-M21A4-G-H4

Chemical analysis (Typical values in %)

C	Mn	Si	P	S	Ni	Mo
0.07	1.40	0.40	≤ 0.015	≤ 0.015	0.9	0.4

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)
				-40 °C
As Welded	≥ 620	700-800	≥ 18	≥ 47

Gas test: 82% Ar+18% CO2

Shielding Gas - EN ISO 14175 : M21

Materials

S(P)460-S(P)620 - API5L X65 / 70 / 80

Storage

Keep dry and avoid condensation

Current condition and welding position

DC+



Packaging data

Packaging Type	B300	S200
Diam(mm) / weight(kg)	16.0	5.0
1.2	W000281228	W000281227