

IRON AND STEEL
PRODUCTS

Electrode

A. RUTILE COATED ELECTRODES, UNALLOYED

YAZD BRAND	ESTANDARD DESIGNATION				
6000	AWS	A5.1	E	6013	
	DIN	1913	E	4332 R(C) 3	
	ISO	2560	E	433 R12	
	BS	639	E	4332 R12	
6001	AWS	A5.1	E	6013	
	DIN	1913	E	4332 RR(C) 6	
	ISO	2560	E	433 RR12	
	BS	639	E	4332 RR12	
6002	AWS	A5.1	E	6013	
	DIN	1913	E	4343 RR(B) 7	
	ISO	2560	E	4343 RR22	
	BS	639	E	4343 RR22	



- **6000:** Medium Coated rutile electrode with excellent weld ability in all positions including vertical down. A universal grade especially for Small transformers. Versatile application in structural welding. Vehicle construction, boiler and tank welding, and in shipbuilding.
- **6001:** Heavily coated rutile electrode engineered for easy handling in all positions including vertical down, good striking and restriking characteristics, sound penetration, flat beads, popular with building fitters and welder assemblers.
- **6002:** Heavily coated rutile electrode especially recommended for out position work except vertical down. Excellent for welding root passes. Products first class x-ray quality welds. Popularly used in structural and tank welding as well as pipeline construction.

B. RUTILE HIGH RECOVERY ELECTRODE

YAZD BRAND	ESTANDARD DESIGNATION			
7000	AWS	A5.1	E	7024
	DIN	1913	E	5132 RR 11 180
	ISO	2560	E	512 RR 18031
	BS	639	E	5132 RR 18031



- **7000:** Heavy coated rutile/iron powder high efficiency electrode with 180% recovery. Suitable for container and storage construction; filler and capping runs of multi-layer weldments. Self detaching slag, smooth welds free of undercuts. Excellent striking characteristics, z touch welding possible.

C. BASIC ELECTRODES, UNALLOYED

YAZD BRAND	ESTANDARD DESIGNATION			
7001	AWS	A5.1	E	7016
	DIN	1913	E	4343 B 10
	ISO	2560	E	434 B 11020(H)
	BS	639	E	4343 B 11020(H)
7002	AWS	A5.1	E	7018
	DIN	1913	E	5154 B 10
	ISO	2560	E	515 B 12020(H)
	BS	639	E	5154

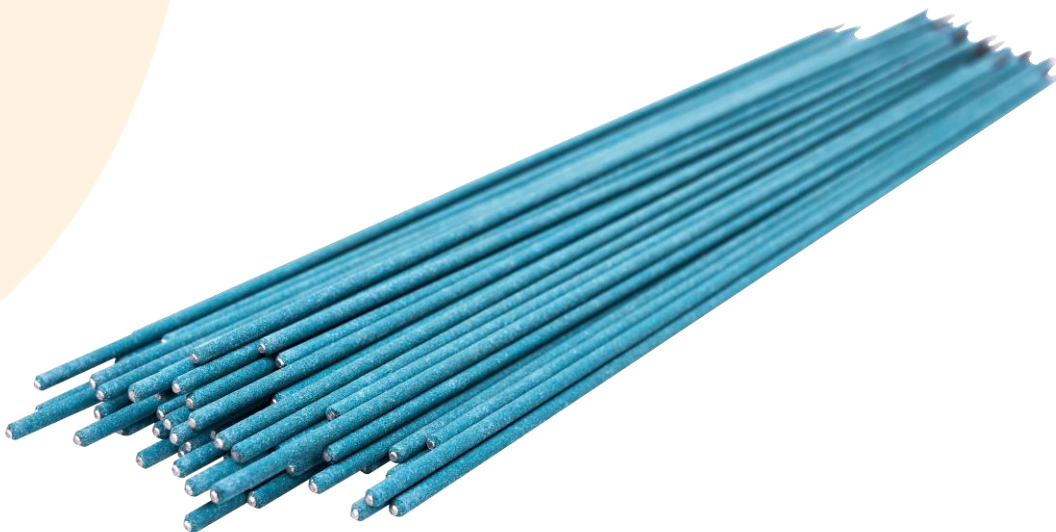


- **7001:** Basic coated electrode for forging work fabrication, boiler and pressure vessel construction. Weld metal has very low hydrogen and is extremely ductile and crack resistant. Good weld ability in all position except vertical down.
- **7002:** Basic coated with about 110% recovery, suitable for highly crack-resistant and tough joints and carbon steels up to 0.4%° C. good weld ability in all positions except vertical down. Deposit has very low hydrogen content

D.CELLULOSE COATED ELECTRODES

YAZD BRAND	ESTANDARD DESIGNATION				
6003	AWS	A5.1	E	6010	
	DIN	1913	E	4354 C 4	
	ISO	2560	E	435 C 50	
	BS	639	E	4354 C 10	
7003	AWS	A5.1	E	7010-A 1	
	DIN	1913	E	5143 C 4	
	ISO	2560	E	514 C 10	
	BS	639	E	5143 C 4	
8003	AWS	A5.1	E	8010-G	
	DIN	1913	E	5132 C 4	
	ISO	2560	E	513 C 10	
	BS	639	E	5132 C 10	

- **6003:** Cellulose coated electrode for welding vertical down in pipeline and storage tank construction. Suitable for root and filler and cap layers, especially recommended for root run welding. Highly economical with vertical up welding.
- **7003:** Cellulose coated electrode for vertical down welding of high strength large diameter pipelines. Especially recommended for root passes. Filler and cap layers. Highly economical compared with vertical up welding.
- **8003:** Cellulose coated electrode for vertical down welding of high strength large diameter pipelines. Especially recommended for root passes. Filler and cap layers. Highly economical compared with vertical up welding.



E. ELECTRODES FOR FINE GRAIN STRUCTURAL STEELS AND SPECIAL-PURPOSE STRUCTURAL STEELS

YAZD BRAND	ESTANDARD DESIGNATION			
7004	AWS	A5.1	E	7018-1
	DIN	8529	E	5155 B 10
	ISO	2560	E	515 B 12020 (H)
	BS	639	E	5155 B 12020 (H)
8000	AWS	A5.1	E	8081-G
	DIN	8529	ESY	5076Mn1NiB
	ISO	2560	-	-
	BS	639	-	-
9000	AWS	A5.1	E	9018-G
	DIN	8529	EY	6275Mn1NiMoB
	ISO	2560	-	514 B
	BS	639	-	NiMoB
10000	AWS	A5.1	E	9018-5
	DIN	8529	ESY	6275Mn1NiMoB
	ISO	2560	E	514 B
	BS	639	E	NiMoB
11000	AWS	A5.1	E	9018-G
	DIN	8529	EY	8975Mn 2 Ni CrMoB
	ISO	2560	-	-
	BS	639	-	-
12000	AWS	A5.1	E	12018-G
	DIN	8529	EY	8975Mn2Ni1CrMoB
	ISO	2560	-	-
	BS	639	-	-

- **7004:** Basic coated electrode for high quality weld joints with higher strength. Suitable also for steels with low purity and high carbon content. Metal recovery about 115% Good weld ability in all positions except vertical down. Deposit has very low hydrogen content.
- **8000:** Basic coated Mn-Ni alloyed electrode with high toughness & resistance to cracking. For higher strength fine grained structural steels. Suitable for service temperature from -60 to +350 degrees Celsius. Easily weldable in all positions except vertical down. Deposit has very low hydrogen content.
- **9000:** Basic coated electrode with high ductility and crack resistance; for high strength fine grained steels. Ductile down to -60° C. Resistant to aging. Easy to handle in all position exceptions except vertical down. Deposits have very low hydrogen content.
- **10000:** Mn-Mo-Ni alloyed basic coated electrode with high ductility and crack resistance for high strength, quenched and tempered fine grained structural steels Suitable for service

temperature from -60° c. to +400° c. Weld metal recovery approx. 120% Easily weldable in all positions except vertical down.

- **11000:** Basic coated electrode with high ductility and crack resistance; for high strength fine grained steels. Low Temperature ductility down to -60° c. and resistant to aging. Easily

weldable in all directions except vertical down. Deposits have very low hydrogen content.

- **12000:** Basic type electrode for high-tensile fine-grained structural steels. Good weldability in all directions except in vertical down. High crack resistant.

F. HIGH TEMPERATURE BASIC AND RUTILE COATED ELECTRODES

YAZD BRAND	ESTANDARD DESIGNATION			
7005	AWS	A5.5	E	7018-A1
	DIN	8575	E	MoB 20+
	ISO	3580	E	MoB
	BS	2493	E	MoB
8001	AWS	A5.5	E	8013-G
	DIN	8575	E	CrMo 1 RR25
	ISO	3580	E	1 CrMoR
	BS	2493	E	1 CrMoR
8002	AWS	A5.5	E	8018-B2
	DIN	8575	E	CrMo 1 B 20+
	ISO	3580	E	1 CrMo B
	BS	2493	E	1 CrMo B
9001	AWS	A5.5	E	9018-B3
	DIN	8575	E	CrMo 2 B20
	ISO	3580	E	2 CrMo B20
	BS	2493	E	2 CrMo B20

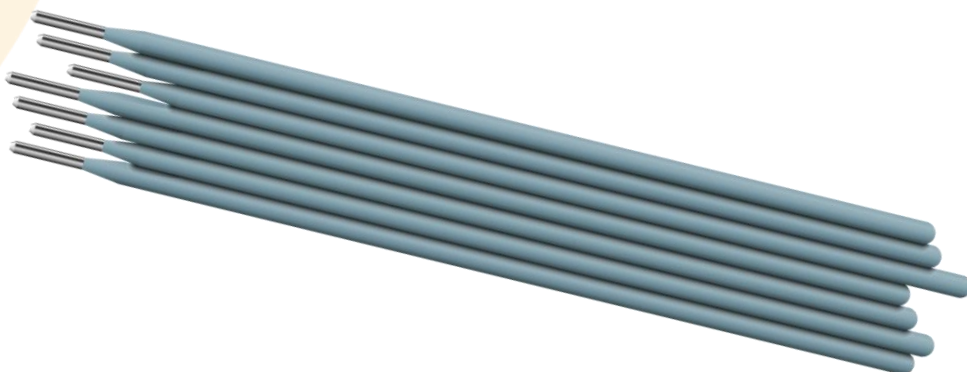
- **7005:** Basic coated electrode for high quality weld of high temperature pressure vessel and tube steel. Preferred for 1/2 moly steels with operating temperatures up to 550° c. Extremely ductile and crack resistant. Resistant to aging. Very low hydrogen content.
- **8001:** Heavy coated rutile type electrode for boiler, storage vessel and pipeline construction; for service temperatures up to 525° c.
- **8002:** Basic type electrode for creep resisting steels and cast with 1% Cr and 0.5% Mo at temperatures up to 550° c.
- **9001:** Basic type electrode for creep resisting steels and cast with 2.5% Cr and 1% Mo at temperatures up to 600° c.

G.ELECTRODES FOR STAINLESS AND HEAT RESISTING STEELS

YAZD BRAND	ESTANDARD DESIGNATION			
SS76	AWS	A5.4	E	307-16
	DIN	8556	E	188 Mn R26
	ISO	3581	E	18.8 Mn R
	BS	2926	-	-
SS85	AWS	A5.4	E	308L-15
	DIN	8556	E	199 Mn LB20+
	ISO	3581	E	19.9.LB
	BS	2926	E	19.9.LB
SS86	AWS	A5.4	E	308 L-16
	DIN	8556	E	199 LR 23
	ISO	3581	E	19.9.LR
	BS	2926	E	19.9.LR
SS96	AWS	A5.4	E	309L-16
	DIN	8556	E	2312 LR 23
	ISO	3581	E	23.12.LR
	BS	2926	E	23.12.LR
SS105	AWS	A5.4	E	310 15
	DIN	8556	E	2520 B 20
	ISO	3581	E	25.20 B
	BS	2926	E	25.20 B
SS126	AWS	A5.4	E	312-16
	DIN	8556	E	299 R 26
	ISO	3581	E	29.9 R
	BS	2926	E	29.9.R
SS166	AWS	A5.4	E	316L-16
	DIN	8556	E	19123 LR 23
	ISO	3581	E	19.12.3.LR
	BS	2926	E	19.12.3.LR
SS186	AWS	A5.4	E	316L-16
	DIN	8556	E	19123 LR 23
	ISO	3581	E	19.12.3.LR
	BS	2926	E	19.12.3.LR
SS476	AWS	A5.4	E	316L-16
	DIN	8556	E	13123 LR 23
	ISO	3581	E	19.12.3.LR
	BS	2926	E	19.12.3.LR

- **SS76:** Rutile basic coated alloyed core wire fully austenitic electrode for joining dissimilar steels for welding problem steels and 14% Mn steels. Tough upper layers in hard facing very good resistance against Cavitation , crack and thermal shock-scaling up to 850° c.

- **SS85:** Low carbon alloyed core wire austenitic electrode with basic coating for welding similar steel types including higher carbon grades as well as ferritic 13% Cr steels, good low temperature ductility down to 196° c. Resistant to Intergranular corrosion up to 350° c.
- **SS86:** Rutile high alloy extra — low carbon electrode for non-stabilized and stabilized-nickel steels resistant to atmospheric corrosion of the 18 Cr/ 8 Ni type. Resistant to grain disintegration of operating temperatures up to 350° c.
- **SS96:** Austenitic ferritic electrode with ferrite content of approx. 15%, suitable for joining high alloy and unalloyed steels. Also suitable as a buffer layer on 18/8 Cr Ni clad steels. Recommended for hard facing of unalloyed steels. Providing an 18/8 Cr Ni in the first pass already.
- **SS105:** Basic fully austenitic electrode for joint welding and hard facing of Cr/ 20% Ni heat-resistant steels. Also suitable for heat and scale resistant to ferritic Cr steels provided corrosion resistance in reducing sulphureous combustion gases is not specified. Scale resistant up to 1050° c.
- **SS126:** Austenitic ferritic electrode with a 25-30% ferrite content. Crack resistant therefore suitable for difficult to weld steels and joining dissimilar materials. Also suitable as a stress compensating buffer layer on parent metals susceptible to cracking.
- **SS166:** Rutile high alloy extra low carbon for non-stabilized Cr-Ni steels resistant to atmospheric corrosion. Resistant to grain disintegration of operating temperatures up to 350° c.
- **SS186:** Austenitic electrode with rutile-basic coating for welding similar steels including 13% Cr steels. Good crack resistant. Resistant to intergranular corrosion up to 400° c.
- **SS476:** Austenitic electrode with rutile-basic coating for welding similar steels including 13% Cr steels. Good crack resistant. Resistant to intergranular corrosion up to 400° c.



H.ELECTRODES FOR HARDFACING APPLICATION

YAZD BRAND	STANDARD DESIGNATION			
HF 13	DIN	8555	E7	-UM-200K
HF 33	DIN	8555	E1	-UM-300

- **HF 13:** Basic manganese-alloyed electrode for wear resistant hard facing on building machines and gravel mixers as well as parts subject impact and friction abrasion.
- **HF 33:** Basic type electrode for medium- hard facing which is still machinable. Particularly for repairs of worn parts subject to rolling. i.e., rails, crossing wheel flanges, crane rollers, caterpillar track rollers etc.

I. ELECTRODE FOR WELDING CAST IRON

YAZD BRAND	STANDARD DESIGNATION			
C. I. 98	AWS	8A5.15	ENi	-CI
	DIN	8573	ENi	BG2

Nickle core electrode for depositing soft, machinable metal on gray cast iron parts, No preheating is required for repair purposes. Heat input should be low by using small electrode diameters and low amperage, preheating to 100-200° c is recommended in case of high wall thickness.

K.ELECTRODE FOR GOUGING & CUTTING

YAZD BRAND	ESTANDARD DESIGNATION			
C. U. T1				

- **YAZD BRAND C. U. T1**

Designed for gouging for metal without oxygen. Suitable for edge beveling, cutting grooves removal of unsound weld metals and cracks prior to repair welding. It is also suitable for piercing and cutting steel and gray cast iron. All kind of steels particularly for stainless and manganese steels which can not be cut by oxyacetylene process and copper and its alloyed can be cut and pierced by this electrode.

L.NEW PRODUCT

YAZD BRAND	ESTANDARD DESIGNATION			
7001-1	AWS EN	A5.5 2560	E E	7016-1 12H5
7006	AWS EN ISO	A5.5 499 2560	E E E	7018-G 4651 Ni B 32 H5 515 B 120 24 H
7007	AWS DIN BS	A5.5 1913 -	E E E	7010-G 5143 C4 5143 C(10)
7008	AWS DIN	A5.5 8529	E E	7016-G SY4276NiB
7009	AWS DIN	A5.5 8575	E E	7016-A1 Mo B20+
8003	AWS DIN ISO BS	A5.5 1913 2560 639	E E E E	8010-G 5132 C4 513 C10 5132 C10
8004	AWS EN ISO	A5.5 499 2560	E E E	8010-P1 4631 Ni C21 514 C50
8005	AWS EN DIN	A5.5 499 8529	E E E	8018-C1 4662 Ni B 32 H5 SY42872Ni B H5

- **7001-1:** Basic electrode for high-quality joint Weld. Especially suited for root passes Welding. Excellent weldability in all position except vertical-down. Smooth and slag-free welds. Crack resistant deposits of high toughness at ambient and sub-zero temperatures. Very low hydrogen Contents in the weld deposit.
- **7006:** Basic coated electrode has weld metal good toughness properties & resistance to cracking. For higher weldable in all positions except vertical-down . Deposit have very low hydrogen content.
- **7007:** Cellulosic-coated electrode for welding of pipe and pipelines in API5L X52 in all position DC only.
- **7008:** Basic coated electrode weld metal has very low hydrogen and is extremely ductile and crack resistant. Good weldability in all position except vertical down. All weld metal is 0.9 % Ni X-ray performance and usability are good.

- **7009:** Yazd electrode 7009 basic coated can be used for welding of 0.5% Mo steel used for high temperature and high-pressure boilers chemical industries, oil refining and turbine casting. Other general low alloy steel and high tensile steel.
- **8003:** Cellulosic coated electrode designed for the site welding of pipe and pipelines in API 5L X60 and X70 in all position DC only. Highly economical with vertical-down welding.
- **8004:** 8004 Yazd used for the welding of low alloyed and high resistant pipelines of crude oil and natural gas well as welding of pipes in larger size. Deep penetration, high mechanical properties of welding bead are the important features. Especially used in vertical down position.





JATLAS

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