



Weldclad

ROLL WELDING TECHNOLOGY



Universal Flux

Submerged Arc welding Flux

Specification AWS A5 17-89 EM 13K

Description

A fully basic agglomerated all mineral non-alloying flux for submerged arc welding.

Excellent hot slag release, especially suitable for continuous welding operations.



Composition

$\text{SiO}_2 + \text{TiO}_2$	$\text{CaO} + \text{MgO}$	$\text{Al}_2\text{O}_3 + \text{MnO}$	CaF_2
20	38	17	19

Application

Universal flux is non-alloying and suitable for use with ferrous based submerged arc welding wires containing up to 50% alloy content.

Universal flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity. Universal flux has superior slag release properties which are maintained at elevated temperatures.

Physical Data

Density :1.2 kg/dm³.

Basicity Index: 3

Packaging

Universal Flux is 25Kg delivered in plastic bags

Health and Safety

Welding produces fumes and gases which can be dangerous to your health.

Arc rays can injure eyes and burn skin.

Electric shock can kill.

It is important to take suitable precautions when welding and follow safe working practices.

These should be based on Welding Manufacturers leaflets 236, 237 and 239



The information contained in this document is typical of the product described but is not guaranteed. Specification may change without notice

Doc. No. DS021

Doc. Name: U flux std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 1

A flux cored submerged-arc welding consumable for multi-layer surfacing. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

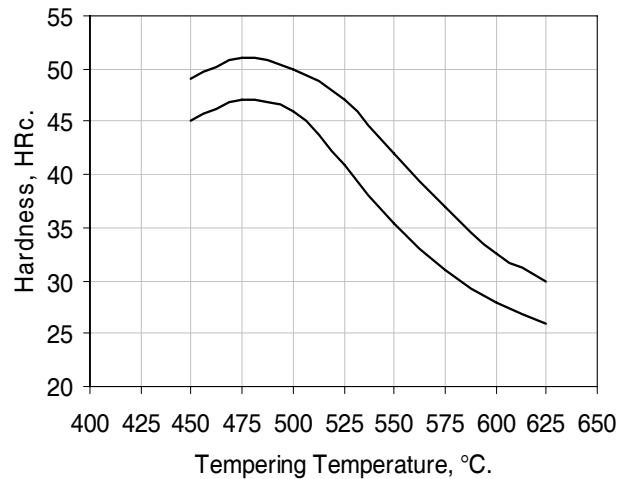
C	Mn	Si	Cr	Mo
0.2	1.5	0.65	4.5	0.5

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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Doc. No. DS022

Doc. Name: WLDC 1 std data sheet

Issue: 1

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page 1 of 1

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WLDC 2

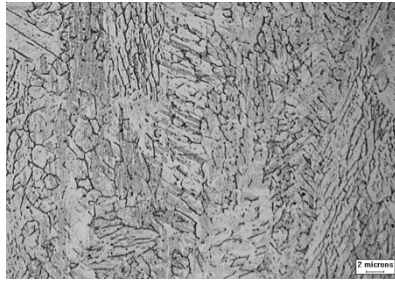
A flux cored submerged-arc welding consumable for multi-layer surfacing. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

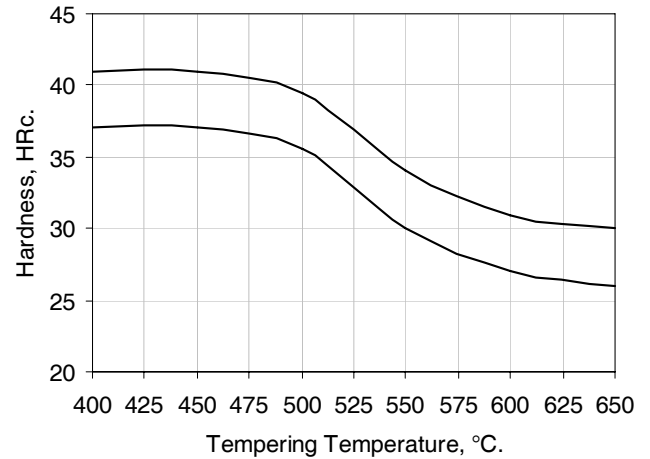
C	Mn	Si	Cr
0.12	1	0.6	12

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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Doc. No. DS023

Doc. Name: WLDC 2 std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 3

A flux cored submerged-arc welding consumable for multi-layer surfacing of continuous caster rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

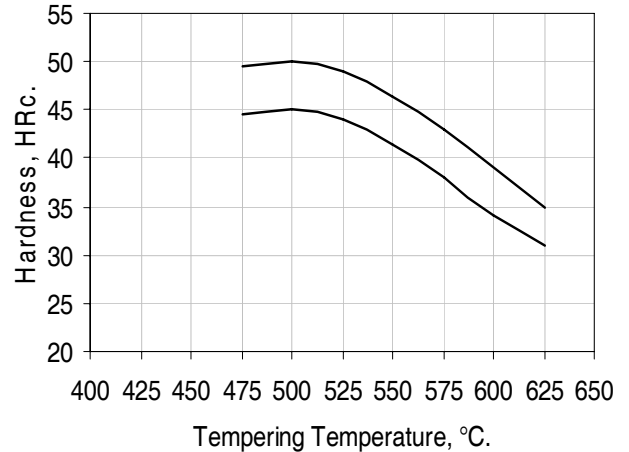
C	Mn	Si	Cr	Ni	Mo	Nb	V
0.1	1	0.6	12.2	2.5	0.8	0.15	0.15

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux:

AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
$\frac{\text{SiO}_2 + \text{TiO}_2}{20}$	$\frac{\text{CaO} + \text{MgO}}{38}$	$\frac{\text{Al}_2\text{O}_3 + \text{MnO}}{17}$	$\frac{\text{CaF}_2}{19}$	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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Doc. No. DS024

Doc. Name: WLDC 3 std data sheet

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page 1 of 1

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WLDC 3MC

A metal cored welding consumable for gas-shielded multi-layer surfacing.

Nominal All Weld Composition, wt%.

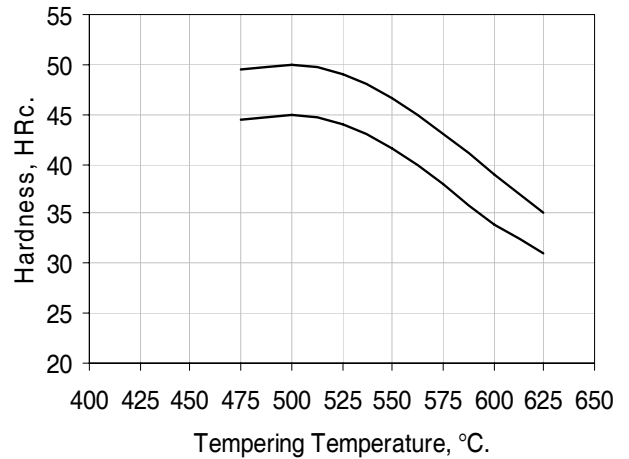
C	Mn	Si	Cr	Ni	Mo	Nb	V
0.1	1	0.6	12.2	2.7	1.1	0.15	0.15

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Ø, mm	Pre heat °C	Process	Polarity	Current (A)	Volts (V)	Stick Out, (mm)	Gas Type (L/min)
1.2	450	Manual	DCEP	160-240	26-30	35	Ar/20%CO ₂ M21 (15)
1.6	450	Manual	DCEP	200-350	28-30	35	Ar/20%CO ₂ M21 (15)

Availability

1.2 mm Ø	13kg reel.
1.6 mm Ø	13kg reel.

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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Doc. No. DS025

Doc. Name: WLDC 3MC std data sheet

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page 1 of 1

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WLDC 3M2H & WLDC 3M2L

Flux cored submerged-arc welding consumable for the surfacing of new continuous caster rolls in two layers. To be used with Weldclad UNIVERSAL Flux

Nominal Deposit Composition, wt%.

two layer deposit - dependent on base material and welding parameters

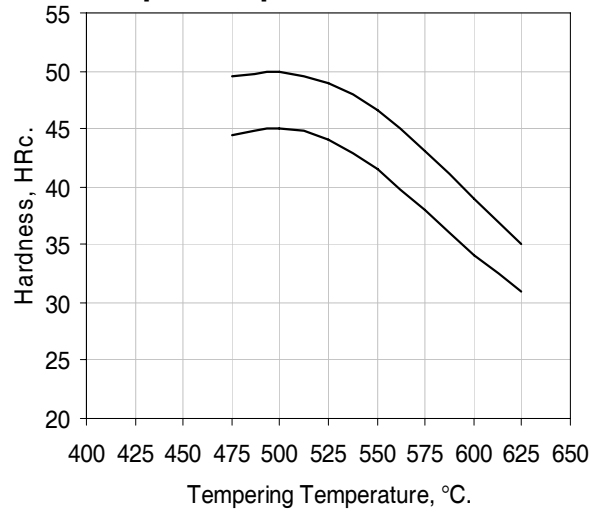
C	Mn	Si	Cr	Ni	Mo	Nb	V
0.1	1	0.6	12.2	2.7	1.1	0.15	0.15

Microstructure

Martensitic matrix



Temper Response: for guidance only



Derivative

WLDC 3M2H

WLDC 3M2L

Substrate

For application on

21CrMoV511 type

42CrMo4 type

Welding Parameters: for guidance only

Roll Ø Mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤ 150	2.4	250	DCEP	160	400	28.5	150	35	40	10
> 150	2*2.4	250	DCEP	117	550	28.5	150	35	60	10
> 150	3.2	250	DCEP	110	500	28.5	150	35	60	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂			
20	38	17	19	1.2Kg/dm ³	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø 25kg spool. 250kg pay-off pack.

3.2 mm Ø 25kg spool. 300kg pay-off pack

UNIVERSAL Flux 25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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WLDC 3S

A flux cored submerged-arc welding consumable for the single layer surfacing of new continuous caster rolls. To be used with Weldclad UNIVERSAL Flux

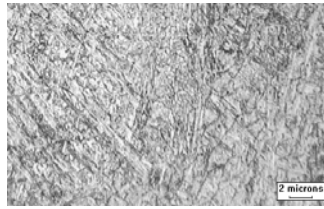
Nominal Deposit Composition, wt%.

Single layer deposit - dependent on base material and welding parameters

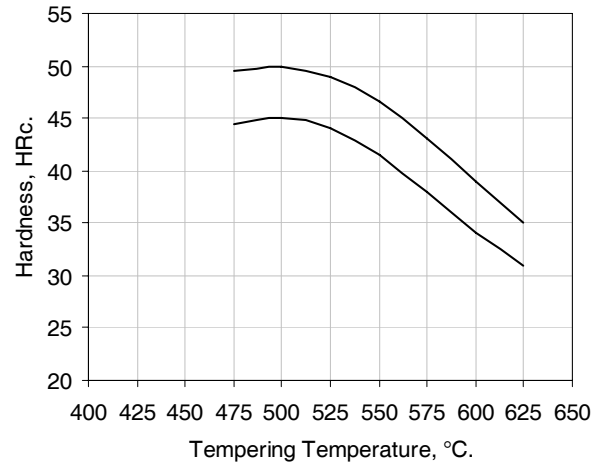
C	Mn	Si	Cr	Ni	Mo	Nb	V
0.1	1	0.6	12.2	2.7	1.1	0.15	0.15

Microstructure

Martensitic matrix



Temper Response: for guidance only



Derivative

Derivative	Substrate
WLDC 3S A	43A / S355 type
WLDC 3S B	21CrMoV511
WLDC 3S C	EN8
WLDC 3S D	42CrMo4
WLDC 3S E	WLDC 69 Buffer

For application on

Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤ 150	2.4	250	DCEP	160	400	28.5	150	35	40	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEP polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂			
20	38	17	19	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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Doc. No. DS027	Doc. Name: WLDC 3S std data sheet	Issue: 1	Issue date: 1/6/2010	page 1 of 1
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WLDC 3XCR

An enhanced flux cored submerged-arc welding consumable for multi-layer surfacing of continuous caster rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

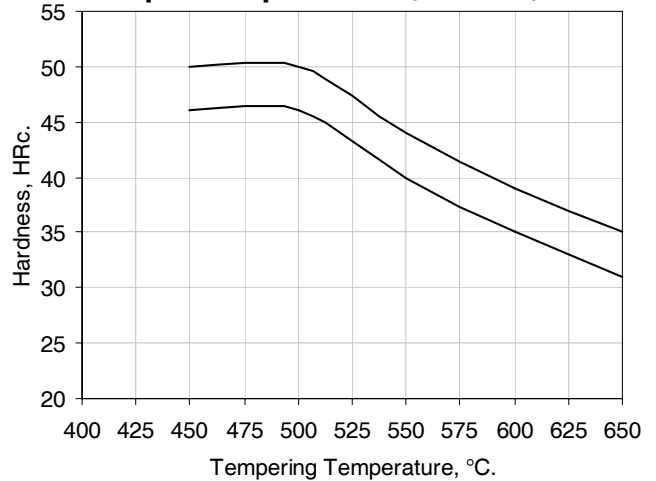
C	N	Mn	Si	Cr	Ni	Mo
0.06	0.06	1	0.6	11.75	3.1	1.6

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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Doc. No. DS028

Doc. Name: WLDC 3XCR std data sheet

Issue: 1

Issue date: 1/6/2010

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WLDC 3HT

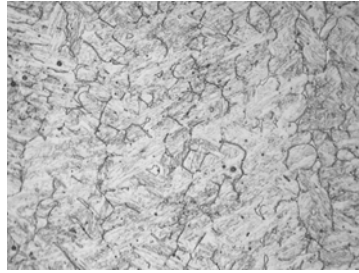
An enhanced flux cored submerged-arc welding consumable for multi-layer surfacing of continuous caster rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

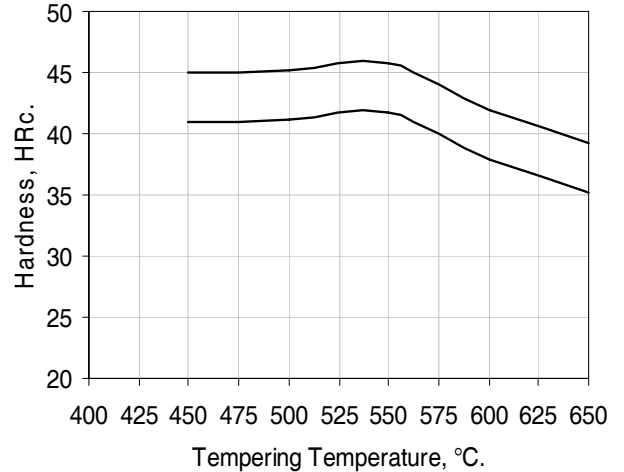
C	Mn	Si	Cr	Ni	Mo
0.1	1	0.6	11.75	3.1	3

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

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Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

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Doc. No. DS029

Doc. Name: WLDC 3HT std data sheet

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page 1 of 1

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WLDC 3Co

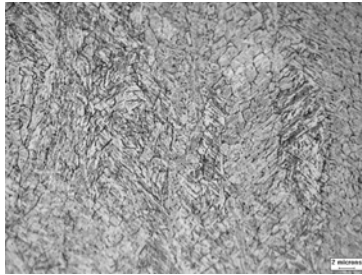
A flux cored submerged-arc welding consumable for multi-layer surfacing of continuous caster rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

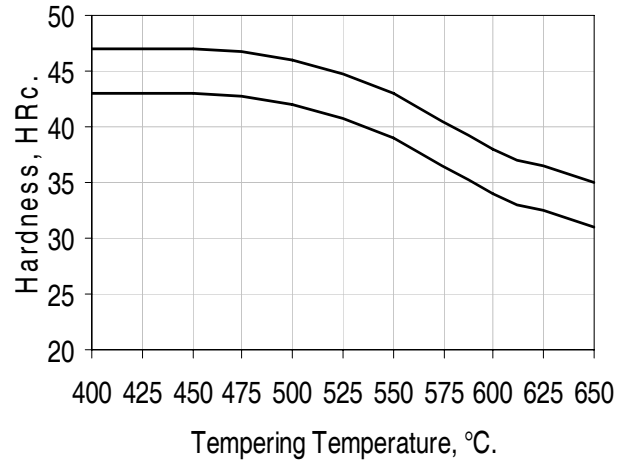
C	Mn	Si	Cr	Ni	Mo	Co
0.1	1	0.6	12.2	2.7	1.1	2

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
Specification may change without notice

Doc. No. DS030

Doc. Name: WLDC 3Co std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 4

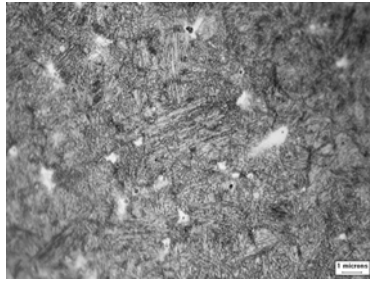
A flux cored submerged-arc welding consumable for multi-layer surfacing of hot strip mill process rolls including pinch rolls and edger rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

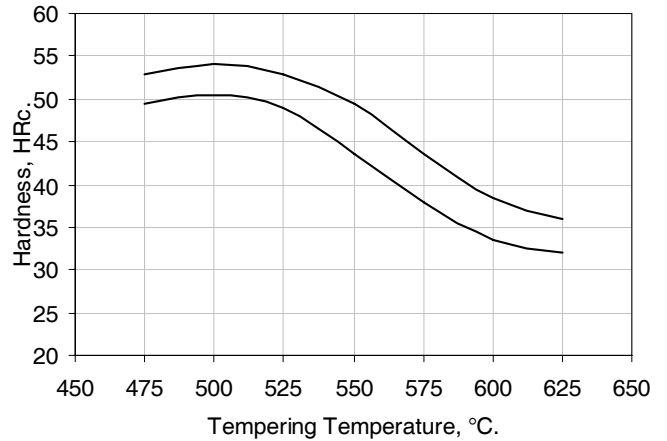
C	Mn	Si	Cr	Mo	Nb
0.6	1	1	5	1	3.5

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤ 150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
> 150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤ 150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
> 150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
> 150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
> 150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
Specification may change without notice

Doc. No. DS031

Doc. Name: WLDC 4 std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 5

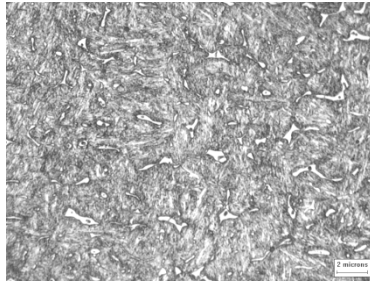
An flux cored submerged-arc welding consumable for multi-layer surfacing of Hot Strip Mill rolls. To be used with Weldclad UNIVERSAL Flux.

Nominal All Weld Composition, wt%.

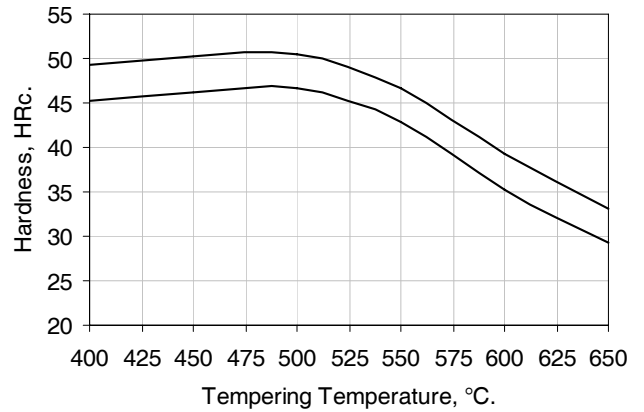
C	Mn	Si	Cr	Ni	Mo
0.13	1	0.6	9	1.75	1

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
$\frac{\text{SiO}_2 + \text{TiO}_2}{20}$	$\frac{\text{CaO} + \text{MgO}}{38}$	$\frac{\text{Al}_2\text{O}_3 + \text{MnO}}{17}$	$\frac{\text{CaF}_2}{19}$	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
Specification may change without notice

Doc. No. DS032

Doc. Name: WLDC 5 std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 5Mod

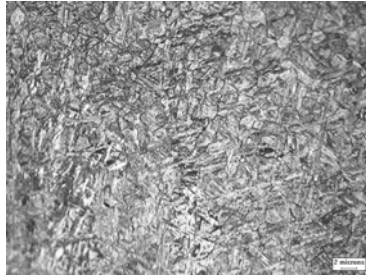
An enhanced flux cored submerged-arc welding consumable for multi-layer surfacing of Hot Strip Mill rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

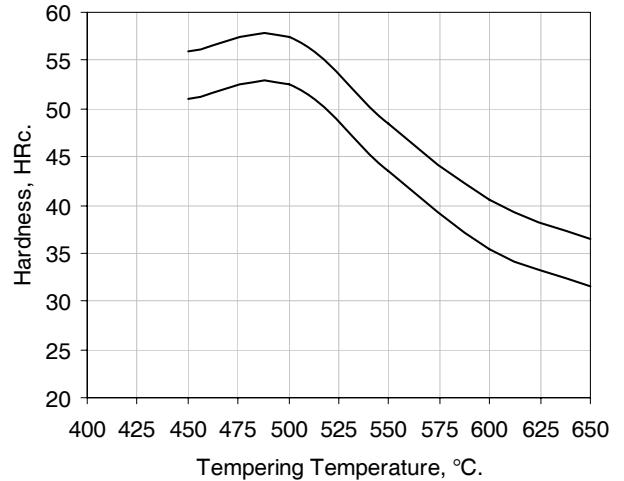
C	Mn	Si	Cr	Ni	Mo
0.25	1	0.6	9	0.25	2

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
$\frac{\text{SiO}_2 + \text{TiO}_2}{20}$	$\frac{\text{CaO} + \text{MgO}}{38}$	$\frac{\text{Al}_2\text{O}_3 + \text{MnO}}{17}$	$\frac{\text{CaF}_2}{19}$	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed. Specification may change without notice

WLDC 5XCR

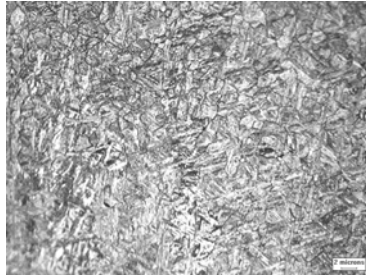
An enhanced flux cored submerged-arc welding consumable for multi-layer surfacing of Hot Strip Mill rolls. To be used with Weldclad UNIVERSAL Flux.

Nominal All Weld Composition, wt%.

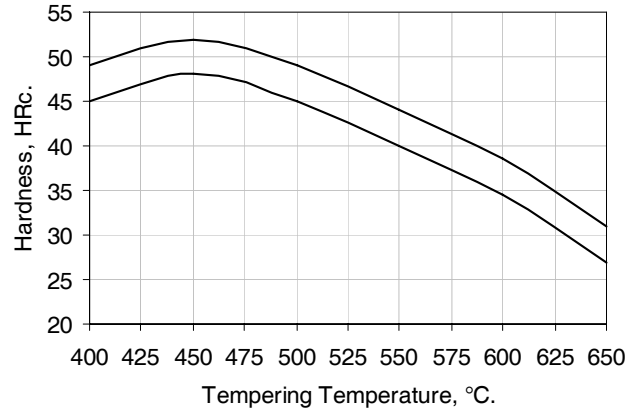
C	Mn	Si	Cr	Ni	Mo
0.15	1	0.6	9	2	3

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
Specification may change without notice

Doc. No. DS034

Doc. Name: WLDC 5XCR std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 5HT

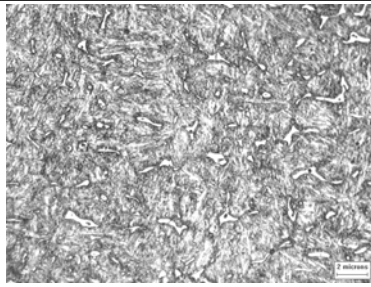
An enhanced flux cored submerged-arc welding consumable for multi-layer surfacing of Hot Strip Mill rolls. To be used with Weldclad UNIVERSAL Flux.

Nominal All Weld Composition, wt%.

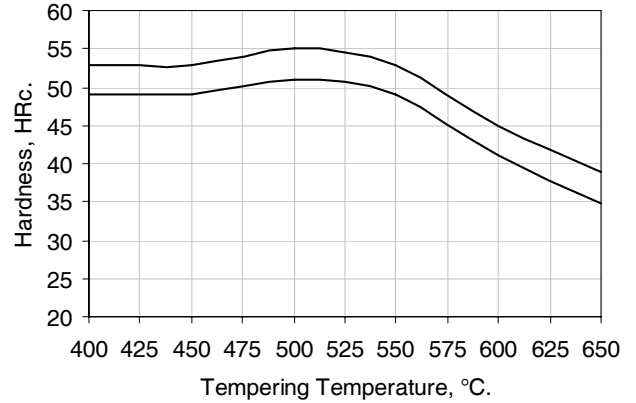
C	Mn	Si	Cr	Mo
0.25	1	0.6	9	3

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤ 150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
> 150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤ 150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
> 150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
> 150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
> 150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ³	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed. Specification may change without notice

Doc. No. DS035

Doc. Name: WLDC 5HT std data sheet

Issue: 1

Issue date: 1/6/2010

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WLDC 6

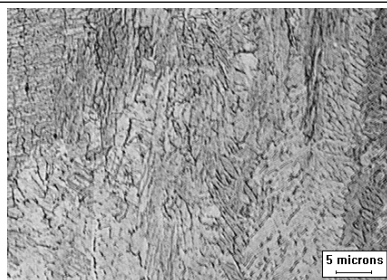
A flux-cored submerged-arc welding consumable producing a precipitation hardening stainless steel deposit.
To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

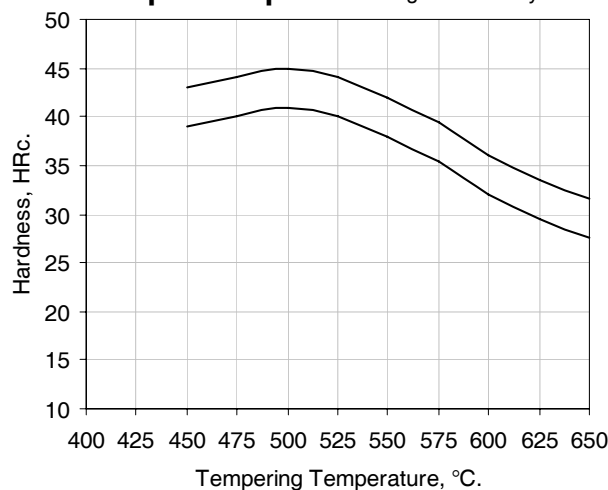
C	Mn	Si	Cr	Ni	Mo	Nb	Cu
0.05	1	0.6	14	5.2	1.4	0.4	1.5

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤ 150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤ 150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
$\text{SiO}_2 + \text{TiO}_2$	$\text{CaO} + \text{MgO}$	$\text{Al}_2\text{O}_3 + \text{MnO}$	CaF_2	1.2Kg/dm ³	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
Specification may change without notice

Doc. No. DS036

Doc. Name: WLDC 6 std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 8

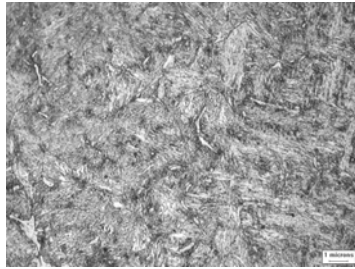
A flux cored submerged-arc welding consumable for multi-layer surfacing of hot strip mill process rolls including table rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

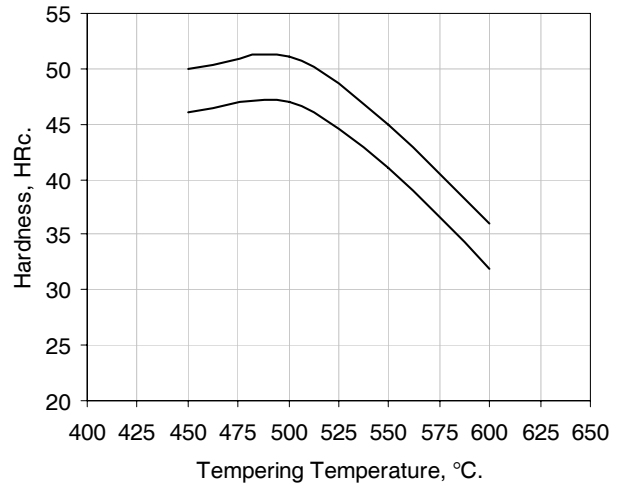
C	Mn	Si	Cr	Mo	V
0.3	1	0.6	12.2	0.75	0.15

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤ 150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤ 150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed. Specification may change without notice

Doc. No. DS037

Doc. Name: WLDC 8 std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 9 & 10

Low alloys flux-cored submerged-arc welding consumable for build-up, maintenance and repair.
To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

	C	Mn	Si	Cr	Mo	As Welded Hardness, Hv
WLDC 9	0.1	1	0.5	0.1	0.5	160
WLDC 10	0.1	1.5	0.	1.25	0.5	270

Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DC+ve or DC-ve polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

1.2 mm Ø	13Kg +25kg Coils
1.3 mm Ø	
2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
Specification may change without notice

Doc. No. DS038	Doc. Name: WLDC 9 & 10 std data sheet	Issue: 1	Issue date: 1/6/2010	page 1 of 1
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 **COREWIRE**
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www.corewire.com

Registered in England No. 1236964. Registered office: Station Road West, Ash Vale, Aldershot, Hants, GU12 5LZ, UK

WLDC 11, 11F, 12

A family of flux cored submerged-arc welding consumable for build-up, maintenance and repair. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

	Nominal All Weld Composition, wt%.					As Welded Hardness,
	C	Mn	Si	Cr	Mo	HRc
WLDC 11	0.15	1	0.5	2.5	0.5	34
WLDC 11F	0.15	1	0.5	3.5	0.7	40
WLDC 12	0.15	1	0.5	3.5	-	38

Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DC+ve or DC-ve polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂			
20	38	17	19	1.2Kg/dm ³	3	0.6-0.9kg /kg weld

Availability

1.2 mm Ø	13Kg +25kg Coils
1.3 mm Ø	
2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed. Specification may change without notice

Doc. No. DS039

Doc. Name: WLDC 11 11F 12 std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 15

A low-alloy buffer material designed for application on substrate with up to 1.2wt% carbon substrate prior to hardfacing. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

C	Mn	Si	Cr	Mo	Nb
0.04	1	0.6	4.5	0.8	1.2

Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ³	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
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Doc. No. DS040

Doc. Name: WLDC 15 std data sheet

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WLDC 17

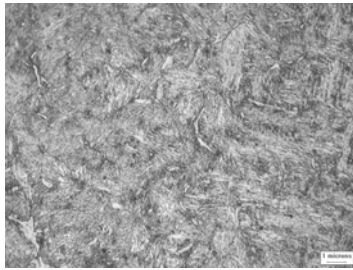
A flux cored submerged-arc welding consumable for multi-layer surfacing of hot strip mill process rolls including wrapper rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

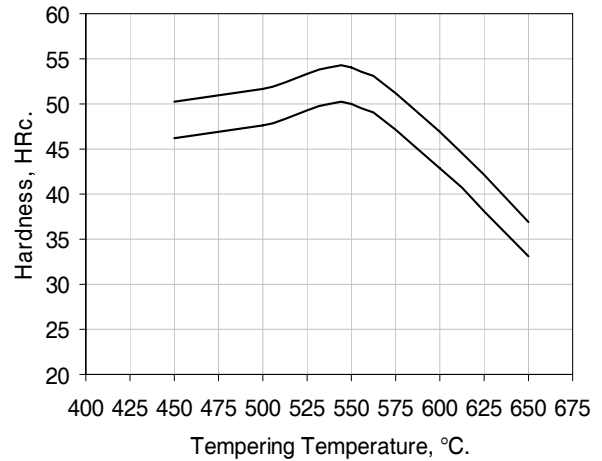
C	Mn	Si	Cr	Mo
0.3	1	0.6	5	3

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	350	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	350	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	350	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	350	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	350	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	350	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition	Density	Basicity	Consumption
$\frac{\text{SiO}_2 + \text{TiO}_2}{20}$ $\frac{\text{CaO} + \text{MgO}}{38}$ $\frac{\text{Al}_2\text{O}_3 + \text{MnO}}{17}$ $\frac{\text{CaF}_2}{19}$	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed. Specification may change without notice

WLDC 18

A flux cored submerged-arc welding consumable for multi-layer surfacing of continuous caster rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

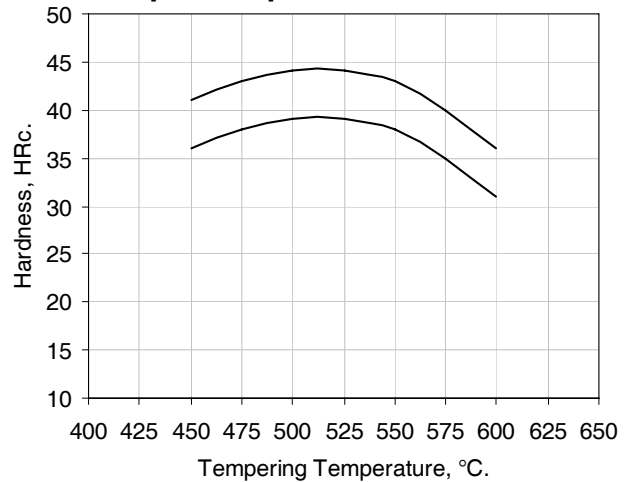
C	Mn	Si	Cr	Ni	Mo
0.08	1	0.65	13	4	0.4

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed. Specification may change without notice

Doc. No. DS042

Doc. Name: WLDC 18 std data sheet

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page 1 of 1

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WLDC 19M

An over-alloyed flux cored submerged-arc welding consumable with enhanced molybdenum levels designed to be used as a preparation layer prior to cladding. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

C	Mn	Si	Cr	Ni
0.08	0.75	0.65	17	0.8

Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
$\text{SiO}_2 + \text{TiO}_2$	$\text{CaO} + \text{MgO}$	$\text{Al}_2\text{O}_3 + \text{MnO}$	CaF_2	1.2Kg/dm ³	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
Specification may change without notice

Doc. No. DS043

Doc. Name: WLDC 19M std data sheet

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Issue date: 1/6/2010

page 1 of 1

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WLDC 59, 69, 75

A series of flux cored submerged-arc welding consumable designed for build-up welding. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

	C	Mn	Si	Cr	Ni	Mo
WLDC 59	0.07	1.3	0.5	-	1.2	0.5
WLDC 69	0.07	1	0.5	1.2	2.25	0.5
WLDC 75	0.1	1	0.5	1.2	0.3	1

Typical Mechanical Properties.

Dependent on tempering temperature, welding procedure and parameters.

	Rm0.2 (MPa)	Rp (MPa)	El (%)	RA (%)	Charpy Impact (Joules)
WLDC 59	420-520	590-620	~30	~70	~100
WLDC 69	620-695	725-930	~20	~60	~38
WLDC 75	610-775	820-945	~13	~60	~20

Welding Parameters: for guidance only

Roll Ø Mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤ 150	2.4	250	DCEP	160	400	28.5	150	35	40	10
>150	2*2.4	250	DCEP	117	550	28.5	150	35	60	10
>150	3.2	250	DCEP	110	500	28.5	150	35	60	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DC+ve or DC-ve polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	1.2Kg/dm ²	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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Doc. No. DS044

Doc. Name: WLDC 59 69 75 std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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WLDC 700

A flux cored submerged-arc welding consumable producing a high quality 29Cr-9Ni deposit.

Nominal All Weld Composition, wt%.

C	Cr	Ni	Mo	Fe
0.1max	29	9	0.5	Bal

Microstructure

Austenitic matrix

Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	160	400	28.5	150	35	40	10
>150	3.2	250	DCEP	110	500	28.5	150	35	60	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂			
20	38	17	19	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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Specification may change without notice

Doc. No. DS045

Doc. Name: WLDC 700 std data sheet

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WLDC 800

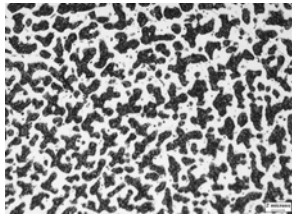
A flux cored submerged-arc welding consumable designed for the cladding of continuous caster foot rolls. A cost effective alternative to nickel based materials.

Available on a trial basis only

Nominal All Weld Composition, wt%.

C	Cr	Ni	Mo	Fe
0.1	20	20	6	Bal

Microstructure



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	160	400	28.5	150	35	40	10
>150	3.2	250	DCEP	110	500	28.5	150	35	60	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂			
20	38	17	19	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed. Specification may change without notice

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WLDC 900

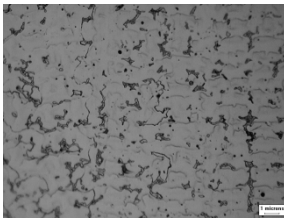
A nickel based flux cored submerged-arc welding consumable designed for the cladding of continuous caster foot rolls subject to corrosion and erosion.

Nominal All Weld Composition, wt%.

Ni	Cr	Mo	Nb
Bal	22	9	3.8

Microstructure

austenitic



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤ 150	2.4	N/A	DCEP	160	400	28.5	150	35	40	10
>150	3.2	N/A	DCEP	110	500	28.5	150	35	60	10

During welding the temperature of the roll should not exceed ~150°C

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂			
20	38	17	19	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
Specification may change without notice

Doc. No. DS047

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WLDC 2000

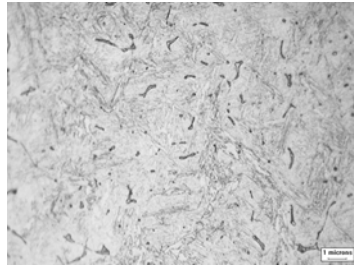
A flux cored submerged-arc welding consumable for multi-layer surfacing of hot strip mill process rolls including table rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

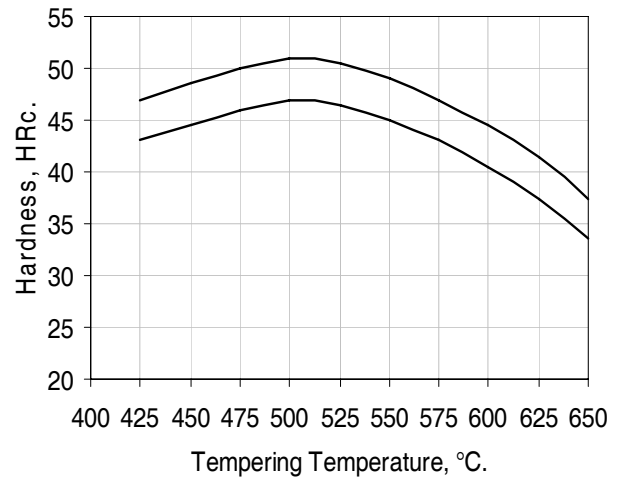
C	Mn	Si	Cr	Ni	Mo	W	V
0.25	1	0.6	11.75	1.5	2	0.8	0.5

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
$\frac{\text{SiO}_2 + \text{TiO}_2}{20}$	$\frac{\text{CaO} + \text{MgO}}{38}$	$\frac{\text{Al}_2\text{O}_3 + \text{MnO}}{17}$	$\frac{\text{CaF}_2}{19}$	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

The information contained in this document is typical of the product described but is not guaranteed.
Specification may change without notice

Doc. No. DS048

Doc. Name: WLDC 2000 std data sheet

Issue: 1

Issue date: 1/6/2010

page 1 of 1

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 **COREWIRE**
HARDFACING CONSUMABLES

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Registered in England No. 1236964. Registered office: Station Road West, Ash Vale, Aldershot, Hants, GU12 5LZ, UK

WLDC 3N

A flux cored submerged-arc welding consumable for multi-layer surfacing of continuous caster rolls. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

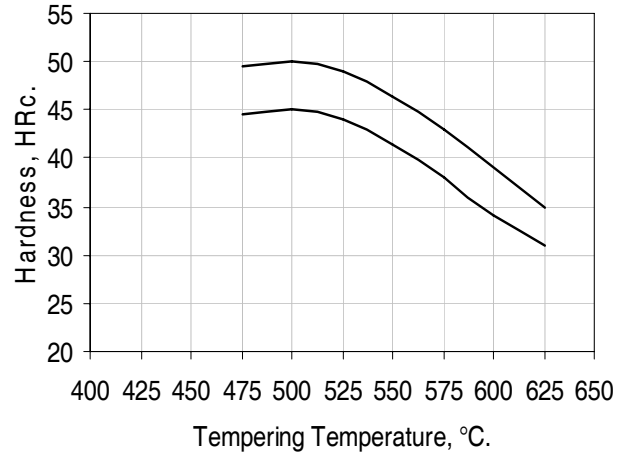
C	N	Mn	Si	Cr	Ni	Mo
0.06	0.06	1	0.6	12.2	2.5	0.8

Microstructure

Martensitic matrix



Temper Response: for guidance only



Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux:

AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
$\frac{\text{SiO}_2 + \text{TiO}_2}{20}$	$\frac{\text{CaO} + \text{MgO}}{38}$	$\frac{\text{Al}_2\text{O}_3 + \text{MnO}}{17}$	$\frac{\text{CaF}_2}{19}$	1.2Kg/dm ²	3	0.6-0.9kg /kg weld

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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page 1 of 1

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WLDC 19XCR

An over-alloyed flux cored submerged-arc welding consumable with enhanced molybdenum levels designed to be used as a preparation layer prior to cladding. To be used with Weldclad UNIVERSAL Flux

Nominal All Weld Composition, wt%.

C	Mn	Si	Cr	Ni	Mo
0.08	0.75	0.65	17	0.8	1.5wt%

Welding Parameters: for guidance only

Roll Ø mm	Ø mm	Pre heat °C	Polarity	Wire Feed Speed Inches / min	Amps A	Volts V	Travel Speed mm/min	Stick Out mm.	Bead Width mm	Overlap (mm)
≤150	2.4	250	DCEP	110	300	29	300	35	12 (stringer)	50%
>150	2.4	250	DCEP	130	350	29	300	35	12 (stringer)	50%
≤150	2.4	250	DCEP	160	400	29	150	35	40 (oscillated)	10
>150	2*2.4	250	DCEP	117	550	29	150	35	60 (oscillated)	10
>150	3.2	250	DCEP	75	375	30	300	35	12 (stringer)	50%
>150	3.2	250	DCEP	110	500	29	150	35	60 (oscillated)	10

UNIVERSAL Flux: AWS A5.17-89 EM13K

A fully basic, all mineral, non-alloying agglomerate flux for submerged arc welding. Excellent hot slag release, especially suitable for continuous welding operations. Universal Flux is suitable for single and multi-pass welding using single or twin wire technique. Welding currents up to 1200A may be used with either DCEP or DCEN polarity.

Composition				Density	Basicity	Consumption
$\text{SiO}_2 + \text{TiO}_2$	$\text{CaO} + \text{MgO}$	$\text{Al}_2\text{O}_3 + \text{MnO}$	CaF_2	1.2Kg/dm ³	3	0.6-0.9kg /kg weld
20	38	17	19			

Availability

2.4 mm Ø	25kg spool. 250kg pay-off pack.
3.2 mm Ø	25kg spool. 300kg pay-off pack
UNIVERSAL Flux	25Kg plastic sacks

Health and Safety

Welding produces fumes and gases which can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. It is important to take suitable precautions when welding and follow safe working practices. These should be based on the Welding Manufacturers Association leaflets 236, 237 and 239.

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Specification may change without notice

Doc. No. DS050

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page 1 of 1

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