



LOTHERME



LoTherme GS - 355

A Gas-shielded wire for High Tensile Steel welding

Characteristics :

LoTherme GS-355 is a gas shielded flux cored wire designed for welding of high tensile strength steel, quenched & tempered steels, surfacing & repair of low alloy steel, case hardened steel, etc. The weld deposit contains very low diffusible hydrogen and good resistant to cracks & fissures. The wire produces an easy to remove thin friable slag and results smooth & uniform radiographic quality bead.

Applications:

LoTherme GS-355 designed for single and multi-pass welding of high tensile steels: HY-80, Sumiten-610, B/C grades of SA-543, steels conforming to SA-612 grade, A/B/C grades of SA-738, etc. The wire is also suitable for welding and surfacing of rolls, shafts, gear wheels, etc. Recommended with both CO₂ and Ar-CO₂ gas mixture.

Weld Metal Tensile Strength:

In as-weld condition : 785 MPa 19%

Current Conditions : DC(+)

Diameter (mm)	1.2	1.6
Current Range (Amps)	160-240	180-270
Voltage (V)	26-30	26-30
Stick Out (mm)	25-35	25-35

Standard Wire Diameter (mm): 1.2mm and 1.6mm

Packing:

Supplied in layer wound 15 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme GS - 602

A Gas-shielded wire for Low Hardness Surfacing & Buffer layer

Characteristics :

LoTherme GS-602 is a gas-shielded wire designed for air hardening type hard surfacing deposit with machinable characteristics. The wire has very good welder's appeal and easy slag detachability. The deposit is low alloy steel martensitic weld metal having good toughness and resistance to impact loading.

Applications:

LoTherme GS-602 wire is suitable for weld-surfacing & reclamation of track rollers & links, shafts, pulleys, idle rollers, conveyor parts, etc.

Weld Metal Hardness: 32 - 36 RC

Recommended Shielding Gas :

- Argon-CO₂, gas mixture
- CO₂ gas

Current Conditions : DC(+)

Diameter (mm)	1.2	1.6
Current Range (Amps)	160-240	180-270
Voltage (V)	26-30	26-30
Stick Out (mm)	25-35	25-35

Standard Wire Diameter (mm): 1.2 and 1.6

Packing:

Supplied in layer wound 15 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme GS - 633

A Gas-shielded wire to deposit Air-hardening, Crack-free 52-56 HRC weld metal.

Characteristics :

LoTherme GS-633 is a medium alloy gas shielded wire designed for air hardening type hard surfacing deposit. The weld is non-machinable and finished by grinding only. The wire has good welder's appeal & easy slag detachability. It deposits a crack-free, martensitic weld metal suitable for heavy impact and moderate abrasion resistant applications.

Applications:

LoTherme GS-633 wire is suitable for weld-surfacing & reclamation of agricultural equipments, excavator components, conveyor buckets & screws, drill bits, scraper blades, conveyor parts, dredge rollers, concrete mixer blades, etc.

Weld Metal Hardness: 52 - 56 RC

Recommended Shielding Gas :

- Argon-CO₂, gas mixture
- CO₂ gas

Current Conditions : DC(+)

Diameter (mm)	1.2	1.6
Current Range (Amps)	160-240	180-270
Voltage (V)	26-30	26-30
Stick Out (mm)	25-35	25-35

Standard Wire Diameter (mm): 1.2 and 1.6

Packing: Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.



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LoTherme OA - 352

An OA wire for Heavy Structural Fabrication

Characteristics :

LoTherme OA-352 wire is designed for single and multiple pass flat & horizontal position welding for low & medium carbon steels where high impact properties are not required. It has high deposition rate, low penetration and especially suitable for poor joint fit up.

Applications:

LoTherme OA-352 is suitable for construction of farm machinery, automobiles, field erection of structures, fabrication of frames, heavy equipment repair, etc.

Typical Mechanical Properties Of All Weld Metal:

ULTIMATE TENSILE STRENGTH	:	530 MPa
ELONGATION (L=4d)	:	22 %

Current Conditions : DC(+)

Diameter (mm)	1.6	2.4	2.8
Current Range (Amps)	140-190	130-180	90-140
Voltage (V)	26-28	26-28	26-28
Stick Out (mm)	30-40	30-40	30-40

Standard Wire Diameter (mm): 1.6, 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme OA - 410S

A Martensitic Stainless Steel OA wire against Metal to Metal Wear

Characteristics :

LoTherme OA-410S deposits martensitic stainless steel weld metal for abrasion resistant hard facing. The deposited weld metal is tough, good resistant to metal-to-metal wear and heat resistant to approximately 450°C.

Applications:

LoTherme OA-410S is suitable for reclamation of impellers pump casing, casting rolls, steam & gas turbine components.

Weld Metal Hardness: 30 - 35 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.



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LoTherme OA - 430S

A Ferritic Stainless Steel OA wire for Surfacing & Buffer Layer

Characteristics :

LoTherme OA-430S deposits ferritic stainless steel weld metal. The weld metal displays good resistance to corrosion and heat. Used commonly as a buffer layer on low alloy steel jobs prior to high alloy hard surfacing applications. The buffer layer takes care of dilution and prevents formation of hard & crack-sensitive martensite microstructure during hard surfacing.

Applications:

LoTherme OA-430S is suitable for reclamation of steam & gas turbine components, valve & valve seats and used as buffer layer during re-building of continuous casting rolls.

Weld Metal Hardness: 30 - 35 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme OA - 444 L

A Martensitic Stainless Steel OA wire for CC Roll Rebuilding

Characteristics :

LoTherme OA-444L deposits a martensitic weld metal with 13%Cr - 4%Ni - 0.5%Mo. It has excellent resistance to cracking and good resistance to corrosion, erosion, abrasion and pitting. It has good resistance to metal-to-metal wear & galling and also heat resistant up to 950°C.

Applications:

Ideally suited for welding of similar composition alloyed steels and cast steels. Typical applications include repair welding of hydro turbine components, continuous casting rolls, surfacing of high-pressure valves, turbine blades, valve seats, repair of runners, pulp and paper plant equipment, etc.

Weld Metal Hardness: 40 - 45 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.



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LoTherme OA - 457 S

An 18-8-5 Stainless Steel OA wire for Joining & Surfacing

Characteristics :

LoTherme OA-457S wire deposits 18Cr - 8Ni - 5Mn type work hardening, radiographic quality weld metal, suitable for welding manganese steel to carbon steel and for build up applications involving severe impact and compressive loads. It is used for welding 13% Mn steel, high carbon steels and other steels which are difficult to weld with unalloyed or low alloyed electrodes.

Applications:

LoTherme OA-457S wire is suitable for welding of railway points & crossings, armour plate, dredging equipments, hammers, jaw & cone crusher, roll crushers, roll crusher, various steel mill applications like; coupling boxes, hook liners, ladle repairs, joining of wear plates, etc. This wire is also used as buffer layer before hand surfacing.

Typical Mechanical Properties Of All Weld Metal:

ULTIMATE TENSILE STRENGTH	: 620 N/mm ²
ELONGATION (L=4d)	: 30 %
HARDNESS: AS WELDED	: 180-200 BHN
WORK HARDENED	: UP TO 400 BHN

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme OA - 468 S

A Stainless Steel OA wire for Joining Steels of Unknown composition.

Characteristics :

LoTherme OA-468S deposits a duplex type weld metal suitable for both single & multi-layer welding applications. The wire burns with a stable & smooth arc and results in good slag detachability. The deposited weld metal is of radiographic quality and extremely resistant to cracks & fissures.

Applications:

LoTherme OA-468S wire is suitable for welding of armoured vehicles and various dissimilar steels like; high carbon steels, manganese steels, cast steels, spring steels, etc. The wire is especially suitable for welding of steels of unknown chemical compositions and is recommended for laying buffer layer before hard surfacing.

Weld Metal Hardness:

ULTIMATE TENSILE STRENGTH	: 820 N/mm ²
ELONGATION (L=4d)	: 18 %
CVN IMPACT STRENGTH	
AT ROOM TEMPERATURE	: 50 Joules

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range	200-300	250-350
(Amps)		
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.



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LoTherme OA - 602

An OA wire for Low Hardness Surfacing & Buffer layer

Characteristics :

LoTherme OA-602 deposits low alloy air-hardening type weld metal having moderate resistance to abrasion and very good resistance to impact & compression. The wire is suitable for rebuilding of carbon & low alloy steel components where resistance to compressive loading is of prime importance. It is also used as a buffer layer prior to hard surfacing.

Applications:

LoTherme OA-602 wire is suitable for trawler tractor links, crane wheels, shafts, drive sprockets, C.S. rollers, etc. Buffer layer on continuous casting rolls and mine car wheels.

Weld Metal Hardness: 34 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme OA - 603

A Chromium Carbide OA wire against Abrasion & Impact.

Characteristics :

LoTherme OA-603 deposits high Carbon-high Chromium alloy martensitic weld metal having a good combination of abrasion resistance and toughness. The welds bead results stress relief check. Weld metal is machinable by grinding only.

Applications:

LoTherme OA-603 is suitable for re-building and reclamation of cast iron rolls, sugar mill rolls, crusher cylinders, oil expeller screws, coal burner nozzle, nozzle tip, worm screws, shovel bucket teeth & lips, etc.

Weld Metal Hardness: 52 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.



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LoTherme OA - 607

An Work-hardening type 12% Mn Steel OA wire of Excellent Impact resistance.

Characteristics :

LoTherme OA-607 is austenitic alloy designed for building up on Hadfield Manganese steel. Exhibits excellent impact resistance making it ideally suitable for Mn steel earthmoving equipments joining hard facing.

Applications:

Cement: crusher hammers, coal crusher rollers, impacters, blow bars, hoppers and chutes.

Mining: buckets, cutting edge, dredging equipment, shovel bucket & lips and hoppers hard facing by checkered pattern.

Weld Metal Hardness:

HARDNESS: AS WELDED	: 160 200 BHN
WORK HARDENED	: UP TO 46 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme OA - 610

A Stainless Steel base Work-hardening type OA wire

Characteristics :

LoTherme OA-610 is an open arc self shielded flux cored wire giving a 16% Cr-4% Mn deposit. The weld metal has excellent abrasion resistance property combine to good resistance to cracking, corrosion, erosion and metal-to-metal wear.

Applications:

LoTherme OA-610 wire is especially designed for the hard-surfacing, overly and buffer layer applications of various components & parts made of carbon steel, low alloy steel and austenitic manganese steel. Applications include, surfacing of mining & excavation components, cement mill parts, steel plant rolls & roll crushers, etc.

Weld Metal Hardness:

HARDNESS: AS WELDED	: 220-250 BHN
WORK HARDENED	: 450-500 BHN

Current Conditions : DCEP/DCRP/DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging may be available on request.



LoTHERME



LoTherme OA - 611

An enriched Chromium Carbide OA wire against Abrasion, Erosion & Impact resistance.

Characteristics :

LoTherme OA-611 deposits chromium carbides having excellent abrasion resistance property even for elevated temperature applications. The weld metal has good corrosion & erosion resistance in mineral-water mixer. Weld reveals stress relief cracks during cooling of the bead. Weld metal is machinable by grinding only.

Applications:

LoTherme OA-611 is suitable for welding of dredge pump impellers, ore crushers, clinker grinder rollers, screw conveyors, shovel bucket teeth, dredge cutters, ore chutes, etc.

Weld Metal Hardness: 60 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme OA - 612

A Niobium-Chromium-Boron Carbide OA wire for Elevated temperature Wear & Abrasion.

Characteristics :

LoTherme OA-612 is high Chromium - Niobium alloy designed to resist high stress grinding abrasion wear with moderate impact at service temperature of 450°C. The deposit will exhibit surface relief checks.

Applications:

LoTherme OA-612 is suitable for welding of coke chutes, coal mill exhaust fan blades, conveyor screws, pulverizing rolls, VRM tyres & table liners, screen in the coal industry, oil expeller screws, etc.

Weld Metal Hardness: 62 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme OA - 617

A Tungsten-Vanadium Complex Carbide OA wire for Severe abrasion at High Temperature.

Characteristics :

LoTherme OA-617 is complex Chromium Niobium - Molybdenum alloy with addition of Tungsten and Vanadium designed to resist high stress grinding abrasion and severe erosion at service temperature up to 600°C. The deposits will exhibit surface relief cracks, metallic appearance and does not require any post weld cleaning.

Applications:

LoTherme OA-617 is suitable for welding of chutes in blast furnace bells & screens, burden area & throat armour plates of blast furnace, sinter plant parts, sugarcane industries, boiler fan blades, etc.

Weld Metal Hardness: 62 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.



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LoTherme OA - 622

A 40-45 HRC Air-hardening type Hard-surfacing OA wire

Characteristics :

LoTherme OA-622 deposits low alloy air-hardening type weld metal having moderate resistance to abrasion and very good resistance to impact & compression. The weld metal is machinable. The wire is suitable for re-building and overlay applications except 14% Manganese steel components.

Applications:

LoTherme OA-622 is suitable for re-building and reclamation of crawler tractor rollers, drive sprockets, links, pins, shovel rollers, crane wheels, etc.

Weld Metal Hardness: 40 - 45 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.

LoTherme OA - 625

A 13Cr-13Mn OA wire for Excellent Impact & Corrosion resistance.

Characteristics :

LoTherme OA-625 deposits high chromium (~14%) high manganese (~13%) austenitic weld metal suitable for heavy impact loading. Weld metal work hardens after cold work and has excellent abrasion resistance. Weld metal is machinable by grinding.

Applications:

LoTherme OA-625 is suitable for re-building and reclamation of manganese steel (~14%) components, railway points & crossings, gyratory & jaw crushers, shaft drive ends, dredge pump cutters, etc.

Weld Metal Hardness:

HARDNESS: AS WELDED	: 24 RC
WORK HARDENED	: UP TO 50 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.



LoTHERME



LoTherme OA - 633

An 54-56 HRC Air-hardening Crack-free OA wire.

Characteristics :

LoTherme OA-633 deposits air-hardening, crack-free martensite weld metal resistant to moderate abrasion, heavy impact and high compressive load applications. Weld metal is machinable by grinding only.

Applications:

LoTherme OA-633 is suitable for re-building and reclamation of rock drills, agricultural equipments, burden area of blast furnace bells & hoppers, shear blades, etc.

Weld Metal Hardness: 54 RC

Current Conditions : DC(+)

Diameter (mm)	2.4	2.8
Current Range (Amps)	200-300	250-350
Voltage (V)	26-28	26-28
Stick Out (mm)	30-40	30-40

Standard Wire Diameter (mm): 2.4 and 2.8

Packing:

Supplied in layer wound 12.5 kgs plastic spool. Each spool is sealed in a polythene bag and then packed in a shrink-wrapped corrugated box.

Note : Any other type of packaging, or other than standard wire sizes, may be available on request.