Clean working means healthy working

As the CMT process functions with less heat input, it almost incidentally has another, added advantage: Lower pollutant emissions.

As shown by numerous test results, theconcentrations of pollutants investigated in CMT brazing are far below those encountered in MIG brazing – nearly 90 %less copper fumes, and as much as 63 % less zinc than with conventional dip-transfer arc-technology.

A clean solution that'll help keep you in good health.

Technical data

Special voltage
For machines designed for special voltages, the technical data on the rating plate applies.
For all machines with a permitted mains voltage of up to 460 V: the mains plug supplied as standard allows operation at voltages of up to 400 V. The standard mains plug allows the user to operate with a mains voltage of up to 400 V. For mains voltages up to 460 V fit a mains plug permitted for such use or install the mains supply directly.

Mains voltage		3 x 400 V
Mains voltage tolerance		± 15 %
Power frequency		50 / 60 Hz
Mains fuse protection		16 A slow-blow
Primary continuous current (100 % d.c.*)		6.6 A
Primary continuous power		4.5 -8.7 kVA
Cos phi		0.99
Degree of efficiency		87 %
Welding current range		
	MIG / MAG	3 - 270 A
	Rod electrode (MMA)	10 - 270 A
	TIG	3 -270 A
Welding current at	10 min/40°C (104°F)	40 % d.c.* 270 A
		60 % d.c.* 210 A
		100 % d.c.* 170 A
Welding voltage range as per standard characteristic		
	MIG / MAG	14.2 - 27.5 V
	Rod electrode (MMA)	20.4 - 30.8 V
	TIG	10.1 - 20.8 V
Max. welding voltage		34.6 V
Open circuit voltage		50 V
Protection		IP 23
Type of cooling		AF
Insulation class		B
Marks of conformity		CE, CSA
Safety		S
Measurements l x b x h		641.5 x 297.4 x 476.5 mm
		25.26 x 11.71 x 18.76 in.
Weight		27 kg
		59.5 lb.
Supply voltage in wirefeeder unit		55 V DC
Nominal current in wirefeeder unit		4 A
Wirefeed speed		0.5 - 22 m/min
		19.69 - 866.14 ipm
Wirespool types		all standardised spools
Max. permitted wirespool weight		16 kg
		35.27 lb
Wirespool diameter		300 mm
		11.81 in.
Wire diameter		0.8 - 1.6 mm 0.03 - 0.06 in.
Drive		4-roller drive
Maximum shielding gas pressure		7 bar 101 psi.

The wirefeeder for the TPS 2700 is integrated in the power source. *d.c. = duty cycle

Cold Metal Transfer

Fronius

MANUAL CMT-WELDING

Making the impossible possible

KNOWHOW • SERVICE • BACKUP

V. Løwener A/S
Postboks 1330 • Smedeland 2 • DK-2600 Glostrup
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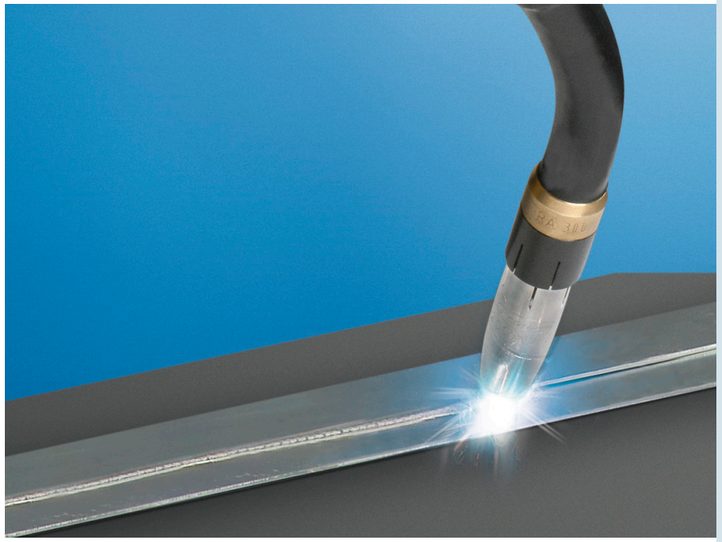
E-mail: vl@loewener.dk • www.loewener.dk

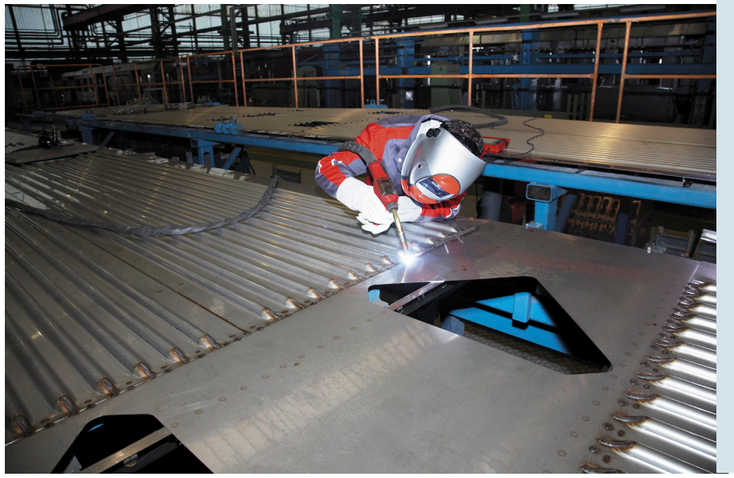
LØWENER

THE CMT-PROCESS

A REVOLUTION IN WELDING TECHNOLOGY

The CMT (Cold Metal Transfer) – process is a revolution in welding technology both in welding equipment and applications. The CMT-process is not only a completely new process which was unknown till now. Also new fields of applications can be opened with this process.





Being a “colder” process overall, CMT makes a number of work-steps superfluous.

Freedom from spatter, for instance, means no post-weld machining. Not even when100 % CO2 shielding gas is used in the welding of steel. Being able to butt-weld light-gauge sheets means there is no need for weld-pool backing support.
High gap bridgeability means better process manageability and therefore suitability for automation. And thanks to the multiprocess capabilities of the weldingmachine, you can also perform MIG/MAG standard andpulsed-arc welding as well as CMT. On top of all this,there are all the savings that result from the loss-free gas-supply to the torch, the automatic cooling-unit cut-out, low open-circuit power, high efficiency, modular (and thushighly flexible) system principle, easy servicing, updatesvia laptop, etc. All the attributes that feature in the digitalMIG/MAG systems do sterling service here as well, then.

FACTS

The CMT process sets brand-new standards in welding technology

Assists droplet detachment by means of the wire-motions incorporated in the digitalprocess-control

Reduces the thermal input by achieving almost current-free metal transfer

Ensures spatter-free metal transfer by controlling the short circuiting

Permits spatter-free MIG/MAG robot welding and brazing of ultra-light gauge sheetsfrom 0.3 mm (0.012”), and joining of steel toaluminium

Offers all the benefits of digital Fronius welding technology.

UTILISATION

Materials

The CMT process has a universal range of application. The specific know-how can be used for all materials.

Applications

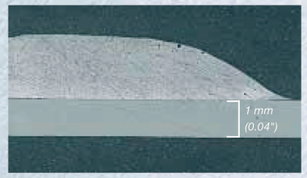
Whether as an automated or a manual application, the CMT Process is suitablefor use in all industrial sectors: from the automotive and supplier industries to industrial plant and pipeline construction, to maintenance and repair work.

THE CMT WELDING PROCESS

CMT-brazed join between hot-dip and electrolytically galvanised sheets; welding speed 2.0 m/min (78.74 IPM). Sheet thickness 0.8 mm (0.03"), filler metal CuSi3.

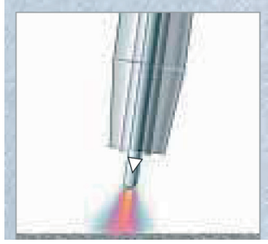
Butt-weld, without weld-pool backing support, on 0.3 mm (0.012") AlMg3 sheet.

Lap-weld on 1.0 mm (0.04") steel sheet, welded under 100 % CO_2 shielding gas. Welding speed 0.7 m/min (27.6 IPM).

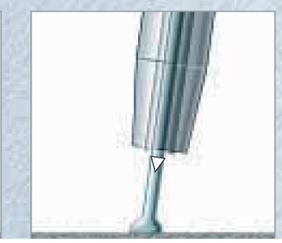


CMT joint between steel and aluminium. Welded on the aluminium side; brazed on the steel side.

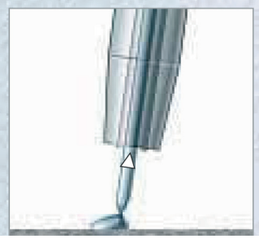
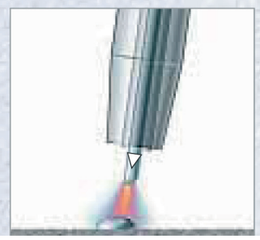
During the arcing period, the filler metal is moved towards the weld-pool.



When the filler metal dips into the weld-pool, the arc is extinguished. The welding current is lowered.



The rearward movement of the wire assists droplet detachment during the short circuit. The short-circuit current is kept small.



The wire motion is reversed and the process begins all over again.