A user friendly, advanced industrial thermal coating system

CastoDyn® DS 8000

COATING

- Highly adaptable: modular concep allows widest range of applications
- Easy-to-use: simple, single-valve parameter control
- Light and robust: suitable for all users, from small workshops to large factories
- Never before have such outstanding results been obtained from such an uncomplicated system

Castolin Eutectic®
Eutectic Castolin

CastoDyn® DS 8000

Regulation of the neutral flame for CastoDyn® 8000 with standard spray module SSM 10, SSM 20, SSM 30 and SSM 40

Example with spray module SSM 10

1. Set a pressure of 4 bars
   on the oxygen regulator. (fig. 1)
2. Set a pressure of 0.7 bars
   on the acetylene regulator.(fig. 1)

Operations on the torch :

3. Fit the spray module SSM10 to the torch
   (see page 8 in the operating manual).
4. Connect the gas tubes to the torch.
5. Shut off acetylene on the A-valve. (fig. 2)
6. Fit the oxygencontrol unit to the torch and
   push it forward to the stop position. (fig. 3)
7. Switch on the rapid shut-off valve
   by pushing the lever forward. (fig. 3)
8. Adjust the oxygen pressure on the regulator
   until the needle of the oxygen contol unit
   is in the zone 10/20 (Fig. 4)
9. Switch off the rapid shut-off valve by pulling
   the lever backwards.
10. Open the A-valve half a turn (Fig.5)
11. Switch on the rapid shut-off valve
    and light the flame.
12. Increase the acetylene on the A-valve (fig. 5)
    to get a carburising flame (fig. 6) (primary
    cone and secondary cone), then reduce until
    the secondary cone has disappeared. (fig. 7)
13. The neutral flame is now set and the torch
    is ready for spraying.
14. To light and shut off the flame, leave
    the A-valve in its position and use only
    the rapid shut-off valve.

Fig. 1

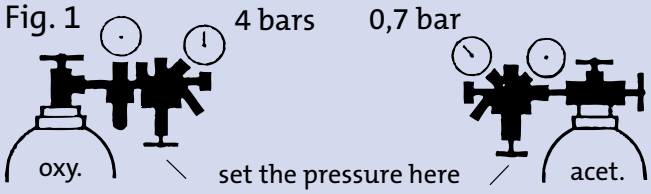


Fig. 2

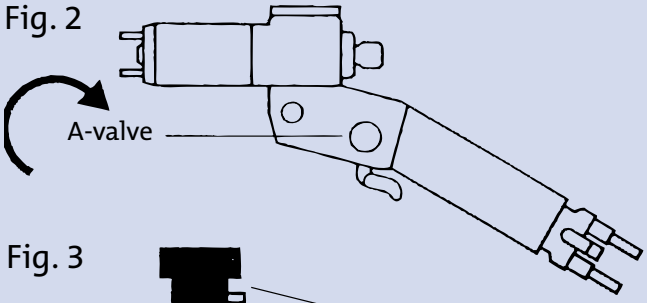


Fig. 3

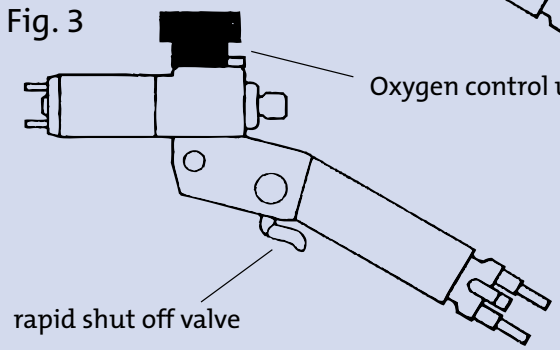


Fig. 4

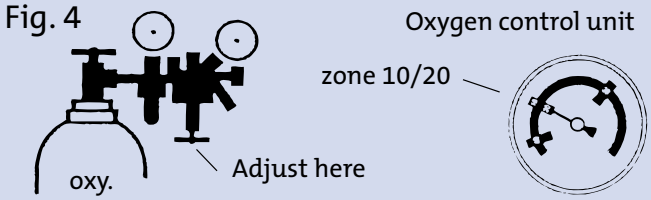


Fig. 5

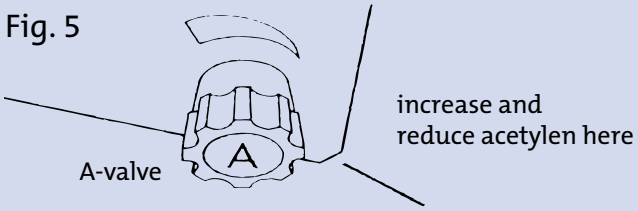


Fig. 6

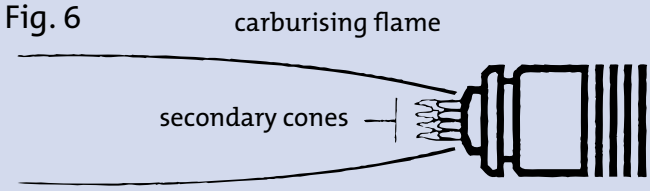
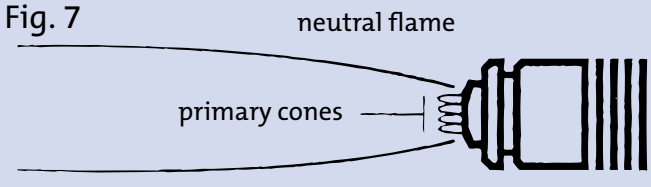


Fig. 7



CastoDyn® DS 8000

Standard procedure for coldspraying with CastoDyn® 8000
Coating of shafts with 51000 and 19000 on low and high alloyed steel

Consult the spraying table before starting the following operations

1. Degrease the whole part.
2. Preheat the part up to 100°C.
3. Undercut the worn area (Fig.1) with Rototool I to a minimum depth of 0.8 mm on radius, and extend the undercutting a further 5mm on each side. (Fig. 2) if wear is deeper, undercut until all damaged metal is removed.
4. File the shoulders (A) with a clean file (Fig. 3) and prepare the surface before spraying by: gritblasting or grinding. For threading see (Fig. 4).
5. Set up a rotational surface speed of 30 rn/min. (Fig. 5).
6. After these operations, the part must still be over room temperature (40°C or more).
7. Apply the solution R 104 on the zone C. (Fig. 3)
8. Spray the bond coat 51 OOO, for parameters see spraying table. Spray 25 mm over the end of the shoulders. (thickness 0.2 mm max.) (Fig. 6)
9. Spray the finishing layers with an alloy of the 19000 series, for para¬meters see spraying table. (Thickness per layer max. 0.2 mm).
10. Keep the temperature of the part below 250°C during spraying.
11. Build up the part 1 mm on diameter above finished size.
12. Let the part cool down to room temperature before final machining (for parameters see machining guide for micropowder alloys).

N.B. To limit the zone to be sprayed, use metallic shields and treat them with solution R 104. (Fig 7).

Fig. 1

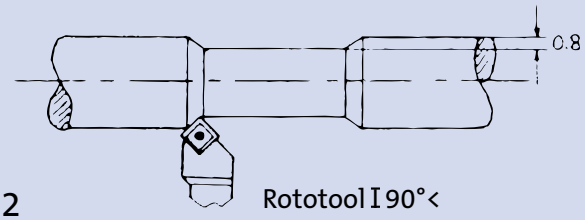


Fig. 2

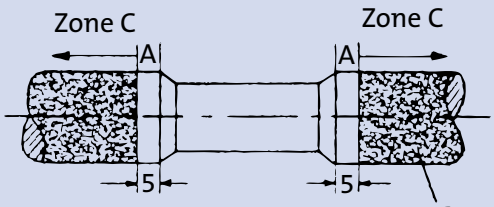


Fig. 3

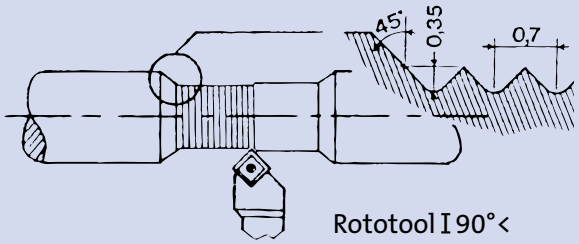


Fig. 4

Formula $\frac{\text{m/Min}}{\text{Ø x π}}$ = Revolution per minute

Example Shaft ø 50m/m $\frac{30000\text{m/m}}{50\text{m/m x } 3{,}14}$ = 191RPM

Fig. 5

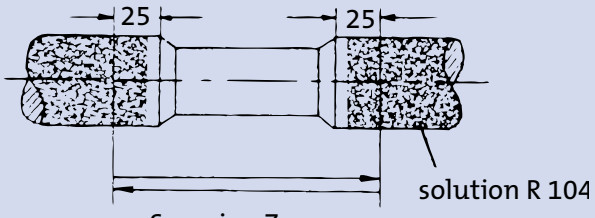


Fig. 6

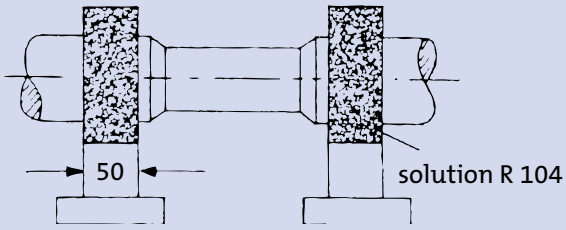


Fig. 7

CastoDyn® DS 8000

NOTE: These instructions will allow you to work in complete safety with your CDS 8000. For some applications, performed by an experienced user, the operating procedures may be allowed to vary from those set out here. For more information, please consult your Castolin Eutectic specialist.

The following parameters are valid both with and without the extension neck.

Example with spray module SSM 10							
Powder	Flame setting	Powder Container Mouting	Air (D)		Spraying	Vc (Rotation)	Advance
			Torch	Extention neck			
SSM		Setting	bar	bar	mm	rn/min	mm/rev
SSM 10 RotoTec «cold» process							
Sound coat 51000	N = Neutral	3	0 -1	1	150	20	3
RotoTec®							
19300			0-1	1			
19400			0-1	1			
19850			2-3	2-3			
19868	N	4	2-3	2-3	200	20	3
19910			0-1	1			
19940			0-1	1			
19985			0-1	1			
19999			0-1	1			
ProXon® (one-step)							
21 021			0 -1	1			
21023	N	3	0 -1	1	150	20	3
21031			0 -1	1			
21071			2-3	2-3			
SSM 20 Eutalloy RW process							
Eutalloy RW							
12112							
12494							
12495							
12496	N						
12497		4		1	200	20	3
12525							
12999							
17093	Carburising (1)						
17495	N						
17497	N						
17535	N						
*SSM 30 High fusion-point-processes							
Sous-couche 51000	N	4	3	3	150	40	5
MetaCeram®							
28010							
28020							
28030	N	1-2	3	3	100	40	5
28060							
28085							
28095**		2-3					
SSM 40 Low fusion-point and polymer processes							
CastoPlast							
31100	N	6	4	4	>250	according to application	
31200	N	6	4	4	>250	according to application	
MicroFlo LT							
29230	N	5	3	3	~250	according to application	
29240***	N	5	3	3	~250	according to application	

1) Carburising flame = 2 to 3 time the cone length
* Use at least 2 cylinders of Acetylene and 2 of Oxygen.
** No need for a bond coat.
*** With 51000 bond coat and SSM 10.

Important: Compressee! air must always be used! when spraying with the extension neck. N.B. trials carried out on a Ø 30 mm shaft.

Oxygen = 4 bar Acetylene = 0.7 bar Compressed Air = 0-6 bar

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