

COAGULATED DISPERSION GRADE CD086E

Description

Fluon® CD086E is a white free flowing powder made by coagulating an aqueous dispersion of polytetrafluoroethylene. The polymer has a trace quantity of comonomer incorporated in the molecule to modify its crystallinity and resulting properties. The process to make CD086E does not use ammonium salts of perfluorooctanoic acid (PFOA).

Processing

Fluon® CD086E can be processed by paste extrusion of a lubricated mix followed by drying and sintering. Further information on these techniques may be found in Technical Service Note F3/4/5, "The processing of Fluon® PTFE coagulated dispersion powders".

Extrusion pressure

Customers can tune Fluon® CD086E to their specific extrusion conditions by choosing from higher, or lower extrusion pressure versions (see table below)

End Uses

Fluon® CD086E has been designed for paste extrusion at low to medium reduction ratio of high quality tubing with good transparency. Typical end uses include high quality hose for high pressure gases and in the automotive industry as fuel lines. The low SG of the sintered tubing makes it suitable for production of convoluted tubes and hoses.

This information sheet contains typical property data which should not be used for specification purposes.

Typical Properties

Property		Typical Value	Units	Test Method
Bulk density		470	kg / m ³	FTM 126
Mean particle size		475	microns	FTM 125
Moisture content (Desiccant pack weight increase 3 days after packing)		<6	g	FTM 121
Moisture (weight loss)		<0.05	%	FTM 140
Extrusion pressure at reduction ratio 400:1 (1.59 mm die)	CD086EH CD086EL	35 28	MPa	FTM 19
SSG		2.145	-	FTM 128
Reduction ratio range		100-500:1	-	-

Tubing

The following conditions have been used with Fluon® CD086EL to make tubing on a vertical ram extruder with in-line drying and sintering followed by air quenching.

	8 mm Tube	25 mm Tube
Machine	150 te Havelock	150 te Havelock
Lubricant (VM&P Naphtha)	18%	17%
Conditioning time/temperature	24 hr/25°C	24 hr/25°C
Preform pressure	500 lb/in ²	500 lb/in ²
Extrusion cylinder	4.5 in	4.5 in
Mandrel diameter	0.75 in	0.75 in
Die diameter	0.350 in	0.9415 in
Die angle	30°	30°
Core pin diameter	0.29 in	0.778 in
Reduction ratio	500:1	70:1
Extrusion rate (tube speed)	0.5 m/min	0.45 m/min
Extrusion pressure	35 MPa	13 MPa
Drying:		
Drying oven temperature	120°C	120°C
Drying oven length	3.2 metres	3.2 metres
Residence time	6.4 min	7 min
Sintering:		
Sintering oven temperature	450°C	450°C
Sintering oven length	1.5 metres	1.5 metres
Residence time	3.0 min	3.33 min

Tubes made under these conditions have good transparency and specific gravity 2.144.



TECHNICAL INFORMATION SHEET

Packaging

Fluon® CD086E is packed in plastic kegs with plastic lids containing 25 kg.

Disposal

Waste polymer should be disposed of by landfill in accordance with any local regulations for the disposal of products of low toxicity or may be incinerated under approved controlled conditions.

Safety In Use

Users must refer to the relevant Material Safety Data Sheet.

Storage and Handling

Fluon® CD086E should be stored in clean dry conditions between 15°C and 18°C to ensure it does not become compacted and remains easy to sieve.

The lubricated mixes of powder should be stored at 25°C for 24 hours before use in air tight containers to ensure that the lubricant is evenly distributed and that the powder will preform and extrude uniformly.

For further information on processing and properties of CD086E tubing may be found in technical information sheet "Fluon® CD086E for Hose and Tubing".

Food Contact Approval

Information on food contact approval is available from the AGC Chemicals Europe, Ltd Sales Office.

Information contained in this publication (and otherwise supplied to users) is based on our general experience and is given in good faith, but we are unable to accept responsibility in respect of factors which are outside our knowledge or control. All conditions, warranties and liabilities of any kind relating to such information, expressed or implied, whether arising under statute, tort or otherwise are excluded to the fullest extent permissible in law. The user is reminded that his legal responsibility may extend beyond compliance with the information provided. Freedom under patents, copyright and registered designs cannot be assumed.

Fluon® grades are general industrial grades. It is the responsibility of the purchaser to check that the specification is appropriate for any individual application. Particular care is required for special applications such as pharmaceutical, medical devices or food. Not all grades are suitable for making finished materials and articles for use in contact with foodstuffs. It is advisable to contact the AGC Chemicals Europe, Ltd sales office for the latest position. Users of Fluon are advised to consult the relevant Health and Safety literature which is available from the AGC Chemicals Europe, Ltd sales office.

Fluon® is a registered trade mark of the Asahi Glass Company.



TECHNICAL INFORMATION SHEET

If you have an application that you think would benefit by using PTFE, PFA, ETFE or Fluoroelastomer, please contact AGC Chemicals Europe, Ltd at one of the addresses below:

AGC Chemicals Europe, Ltd

PO Box 4, York House
Hillhouse International
Thornton Cleveleys
Lancashire
FY5 4QD
UK

Tel : +44 (0) 1253 861963

Fax : +44 (0) 1253 861950

Email: info@agcce.com

<http://www.agcce.com>

Asahi Glass Company Limited

Shin-Marunouchi Bldg.,
1-5-1, MARUNOUCHI,
Chiyoda-ku
Tokyo 100-8405
JAPAN

Tel : + 81 3 3218 5855

Fax : + 81 3 3218 7849

<http://www.agc.com>

AGC Chemicals Trading (Shanghai) Co., Ltd.

Room 6405, Rui Jin Business Center
118 Rui Jin (2) Road, Shanghai
CHINA
Postcode: 200020

Tel: 86 21 6415 165

Fax: 86 21 6415 9506

email: acs-kameda@agcsh.com

AGC Chemicals Americas, Inc.

55 E. Uwchlan Avenue, Suite 201
Exton
PA 19341
UNITED STATES OF AMERICA

Tel: (800) 424-PTFE (7833)

Tel: + 1 610 423-4300 (outside USA)

Fax: + 1 610 423-4301

Email: info@agcchem.com

<http://www.agcchem.com>

AGC Chemicals Asia Pacific Pte., Ltd.

460 Alexandra Road
#30-02 PSA Building
SINGAPORE 119963

Tel: +65 6273 5656

Fax: +65 6276 8783

email: casey@sg.agc-chemicals.com