

3M Advanced Materials Division

# 3M™ Dyneon™ Fluoroelastomer FC 2122

## Features and Benefits

- Low viscosity version of FC 2152
- Excellent mold release
- Fast curing
- Very high elongation
- Proprietary incorporated cure technology
- Process targets: injection and transfer molding, extrusion and calendering

## Typical applications

- Especially suitable for O-rings and molded complex custom shapes

**Note:** Data in this document are not for specification purposes.

## Typical Properties

Property	Units	Value
Fluorine Content	%	65.9
Specific Gravity		1.80
Color		Opaque Off-White
Solubility		Ketones and Esters
Mooney Viscosity ML 1+ 10 @ 121°C (250°F)	MU	Approximately 25

## Product Description

3M™ Dyneon™ Fluoroelastomer FC 2122 is a copolymer of vinylidene fluoride and hexafluoropropylene with proprietary incorporated cure technology.

## Processing Guidelines

Dyneon FC 2122 can be compounded using standard water cooled internal mixers or two-roll mills with standard fillers and ingredients utilized in typical fluoroelastomer formulations.

The dry ingredients should be blended before adding to the masticated gum. For best results, Dyneon FC 2122 should be banded on the mill several minutes prior to adding the blended dry ingredients. Once mixed, the compounded stocks have good scorch resistance and storage stability.

## Delivered Product Form

FC 2122 is packaged in bale form and is available in a returnable bulk shipping container system for 600 kg (1,320 lbs) of material. The bulk container system is comprised of 48 individual polyethylene

bags containing 12.5 kg (27.5 lbs) of product. Smaller quantities are available in 25.0 kg (55.1 lb) boxes.

**Note:** Package size(s) may vary by region.

## Safety/Toxicology

Follow recommended handling precautions for use of Dyneon fluoroelastomers from 3M. General handling precautions include: (1) Store and use all Dyneon fluoroelastomers only in well ventilated areas. (2) Do not smoke in areas contaminated with dust from Dyneon fluoroelastomers. (3) Avoid eye contact. (4) After handling Dyneon fluoroelastomers, wash any contacted skin with soap and water.

Potential hazards, including evolution of toxic vapors, do exist during compounding or processing under high temperature conditions. Before processing Dyneon fluoroelastomers, consult the product Safety Data Sheet (SDS) and follow all label directions and handling precautions. You should also read and follow all directions from other compound ingredient suppliers. Refer to the Dyneon fluoroelastomer safety data sheet for additional safety information.

## ISO Registrations

All Dyneon fluoroelastomers are manufactured at ISO 9001 and 14001 registered facilities.

## Typical Properties of Vulcanizate

Compound	Amount (in parts/100)
3M™ Dyneon™ Fluoroelastomer FC 2122	100
N990 MT Carbon Black	30
MgO	3
Ca(OH) <sub>2</sub>	6

## Typical Rheological Properties [ASTM D5289] Moving Die Rheometer (MDR) 100 cpm, 0.5° Arc 6 Minutes @ 177°C (351°F)

Property	Units	Value
ML, Minimum Torque	dN·m (in-lb)	1.0 (0.9)
ts2, Time to 2 Inch-lb Rise from Minimum	Minutes	1.3
t'50, Time to 50% Cure	Minutes	1.6
t'90, Time to 90% Cure	Minutes	2.4
MH, Maximum Torque	dN·m (in-lb)	12.8 (11.3)

## Typical Physical Properties [ASTM D412 Method A, Die D] Press Cure 5 Minutes @ 177°C (351°F) Post Cure 24 Hours @ 230°C (446°F)

Property	Units	Value
Tensile	MPa (psi)	14.8 (2146)
100% Modulus	MPa (psi)	3.3 (478)
Elongation at Break	%	350
Durometer Type A Hardness [ASTM D2240]	Points	72

## Compression Set Resistance [ASTM D1414]

70 Hours @ 200°C (392°F)

Property	Units	Value
Post Cured 16 Hours @ 230°C (446°F)	°C (°F)	28
Post Cured 24 Hours @ 260°C (500°F)	°C (°F)	27

## Low Temperature [ASTM D1329]

Property	Unit	Value
TR10	°C (°F)	-18 (0)

## Customer Service

### Europe

**Dyneon GmbH**  
**3M Advanced Materials Division**  
Carl-Schurz-Straße  
41453 Neuss  
Germany  
Phone: +00 800 396 366 27  
Fax: +00 800 396 366 39  
www.dyneon.eu

### Italy

Phone: 0 800 7 910 18  
Fax: 0 800 7 910 19

### Latin America

**3M Brasil**  
Via Anhanguera km  
110 Sumare  
Sao Paulo CEP 13181-900  
Brasil  
Phone: 0800 0132333

**3M Mexico**  
Santa Fe 190, Col. Santa Fe  
Deleg. Alvaro Obregon  
Mexico D.F., C.P. 01210  
México  
Phone: 0052 5552700 400  
Ext 82935

### Asia

**3M Japan**  
6-7-29, Kita-Shinagawa  
Shinagawa-ku  
Tokyo 141-8684  
Japan  
Phone: 81 570 022 123

**3M Korea**  
19F, 82, Uisadang-daero  
Yeongdeungpo-gu, Seoul, 150-705  
Korea  
Phone: 82 2 3771 4027

**3M Taiwan**  
6F, No.95, Sec. 2  
Dunhua S. Rd.  
Taipei 10682  
Taiwan  
Phone: 886 2 2704 9011

**3M Thailand**  
150 Soi Chalongsongkrong 31  
Ladkrabang Bangkok, 10520  
Thailand  
Phone: 66 2739 4803 9  
Ext 2354

### USA

**3M Advanced Materials Division**  
3M Center, 280-01W-03  
St. Paul, MN 55144-1000  
United States  
Phone: 1 800 810 8499

Please visit [3M.com/fluoropolymers](http://3M.com/fluoropolymers) for additional regional contact information.

**Warranty, Limited Remedy, and Disclaimer:** Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. User is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application. User is solely responsible for evaluating third party intellectual property rights and for ensuring that user's use of 3M product does not violate any third party intellectual property rights. Unless a different warranty is specifically stated in the applicable product literature or packaging insert, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OF NON-INFRINGEMENT OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

**Limitation of Liability:** Except where prohibited by law, 3M will not be liable for any loss or damages arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

**Technical Information:** Technical information, recommendations, and other statements contained in this document or provided by 3M personnel are based on tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed. Such information is intended for persons with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.



### 3M Advanced Materials Division

3M Center  
St. Paul, MN 55144 USA

Phone 1-800-367-8499  
Web [www.3M.com/fluoropolymers](http://www.3M.com/fluoropolymers)

3M and Dyneon are trademarks of  
3M Company. Used under license.

Please recycle. Printed in USA © 3M 2018.  
All rights reserved. Issued: 1/18 13055HB  
98-0504-1156-4