



EXOVA MATERIALS TECHNOLOGY

Plastic Pipes

CLIENT: PESTAN North America

EVALUATION OF THE OXIDATIVE RESISTANCE ACCORDING TO ASTM F2023 OF EF01 PP-RCT/R2

INTRODUCTION

Exova offers accredited testing and evaluation according to ASTM F2023, i.e. evaluation of the oxidative resistance. The aim was to evaluate PP-RCT pipe material EF01 PP-RCT/R2 according to ASTM F2389 (ASTM F2023) and give it a classification following ASTM F876 chlorine rating. The pipe samples of the material were tested at 95, 105 and 115°C at 4.14 bar (60 psi) and 2.76 bar (40 psi) using double samples, i.e. twelve samples in total. The material meets the requirement of class 5 rating (CL5) as given in ASTM F876 and summarized in the table below. All estimations are only valid for the PP-RCT material EF01 PP-RCT/R2. The full ASTM F2023 evaluation is presented in Exova report P-15/79.

RESULTS OBTAINED

CONDITION	T	HOOP STRESS	SERVICE TIME FRACTION	ESTIMATED TIME TO FAILURE
CLASS 1 (CL-TD)	73°F (23°C)	200 psi (1.38 MPa)	75%	>100 yrs
	140°F (60°C)		25%	
CLASS 3	73°F (23°C)	200 psi (1.38 MPa)	50%	>100 yrs
	140°F (60°C)		50%	
CLASS 5 (CL-R)	140°F (60°C)	200 psi (1.38 MPa)	100%	52 years

CLASSIFICATION

CL5 (ASTM F876)



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