



» PRODUCT BULLETIN

Cesa™ Tough™ A4R

Additive to Improve Environmental Stress Crack Resistance (ESCR) in Recycled High-Density Polyethylene (r-HDPE)

Cesa™ Tough™ A4R is an innovative additive engineered to enhance the Environmental Stress Crack Resistance (ESCR) of recycled High-Density Polyethylene (r-HDPE). Designed for use in demanding applications such as cable jackets, this additive enables the use of higher post-consumer recycled (PCR) content without compromising performance or recyclability.

Cesa Tough A4R supports circular economy initiatives and helps you achieve your sustainability and regulatory goals. It significantly improves ESCR in r-HDPE, protecting against degradation in aggressive environments.

TECHNICAL DATA & PERFORMANCE

- ESCR (F50, hours to crack onset):
 - 100% r-HDPE: 60 hours
 - r-HDPE + 5% Cesa Tough A4R: 120+ hours (increase of over 100%)
- Melt flow: >20% increase
- Strain at break: >35% increase
- Impact strength: >140% increase
- Performance may vary depending on PCR quality and article geometry

RECOMMENDED USAGE

Cesa Tough A4R is typically used at 3–5% loading during production to achieve optimal performance improvements.

For more information or to request a sample, please contact your Avient representative.

1.844.4AVIENT
www.avient.com



Copyright © 2026, Avient Corporation. Avient makes no representations, guarantees, or warranties of any kind with respect to the information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as “typical” or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. Avient makes no warranties or guarantees respecting suitability of either Avient’s products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. AVIENT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.