## Clearflex® H&T CHH 196

Linear Low Density Polyethylene

Versalis S.p.A.

## Message:

Clearflex H&T CHH 196 is a hexene copolymer linear low density polyethylene (C6-LLDPE), with antioxidants, suitable for cast film extrusion. Stretch films manufactured with Clearflex H&T CHH 196 have outstanding fracture mechanical properties, mainly Elmendorf tear strength along machine direction (MD) and puncture resistance. Moreover, the holding force is the key property of these films when used in automatic wrapping machines. Main Applications

Clearflex H&T CHH 196 is recommended for production of super-power stretch films. Its properties, especially in terms of holding force and puncture resistance, make Clearflex H&T CHH 196 the ideal choice for packaging goods of irregular shape and for applications requiring a superior mechanical strength.

Additive Antioxidation   Features hexene comonomer   Perforation resistance Antioxidation   Antioxidation Good tear strength   Good tear strength Good tear strength   Compliance of Food Exposure Films   Stretch winding Stretch winding   cast film Stretch winding   Forms Particle   Processing Method Cast film   Physion Nominal Value   Uhit Test Method   Methas:Flow Rate (MFR) (190°C/2.16 yolf   Kg) 1.9 g/10 min   Films Storesth   Methas:Flow Rate (MFR) (190°C/2.16 yolf   Kg) 0.50 Test Method   Cefficient of Friction (Dynamic, Cast Film >0.50   Films Storesth Storesth   Films Storesth Storesth   Films 0.50 Test Method   Cefficient of Friction (Dynamic, Cast Film >0.50 Test Method   Films Storesth Storesth   Films Nominal Value Unit Test Method   Cefficient of Friction (Dynamic, Cast Film >0.50 Test Method   Films Storesth Storesth Storesth   Test Me	General Information			
Perforation resistance AnixoidationPerforation resistance AnixoidationGood tear strength Compliance of Food ExposureSocial extending Compliance of Food ExposureUsesPackaign Films Stacthwinding castfilmAgency RatingsProgen food contact, not rated Compliance of Food ExposureFormsParticeProdesing MethodParticeProdesing MethodNamina ValueDensityOninal ValueDensityJoinMethanal-Methol (Might Partice)grownMethanalJournMethanalJournMethanalNominal ValueCefficient of Friction (Dynamic Cast Imit)JoinFilm Thickness Tested30GuitantUnitFilm Thickness Tested10Jaseitoning, Mc2 Jaun, cast ImitSio SimTestel ModulusIso SimTestel ModulusIso SimImit Rates, Tested140Manal ValueIso SimFilm Thickness Tested160 SimJaseitoning, Mc2 Jaun, cast ImitIso SimTestel ModulusIso SimImit Rates, Tester ImitIso SimImit Rates, Tester ImitIso SimFilm Thickness Tested140Manal ValueIso SimImit Rates, Tester ImitIso SimImit Rates, Tester Imit Rates,	Additive	Antioxidation		
Anizidation Goders srength Compliance of Food ExposureSecond Second ExposureUsesPacagingFilmsFilmsStetch winding cat filmSecond <td>Features</td> <td>hexene comonomer</td> <td></td> <td></td>	Features	hexene comonomer		
Godterstrength Copplance of Food Exposure   Server Strength Complance of Food Exposure     Files   Files     Stretch winding Carter winding   Stretch winding     Stretch winding		Perforation resistance		
LessPackajngFilmsStech winding cat filmAgeny RatingsEuropean food contact, not ratedFormsRuropean food contact, not ratedFormsRuropean food contact, not ratedFormsRuropean food contact, not ratedProcessing Methodcat filmProcessing Methodcat filmProcessing MethodNominal ValueProcessing MethodJonDensiv0916Oenfler Method(190°C/2.16)j.0'Cn <sup>an</sup> Neinal ValueUnitMethodanciaJonNominal ValueUnitCoefficient of Friction (Dynamic, Cast Film)J.0'SOFilms1.0'SOFilms1.0'SOFilms1.0'SOFilms1.0'SO (Jast)Films1.0'SO (Jast) <t< td=""><td></td><td>Antioxidation</td><td></td><td></td></t<>		Antioxidation		
Pakaging   Films     Films   Stetch winding     Stetch winding   Stetch winding		Good tear strength		
Films Stretch winding cast filmAgency RatingsEuropean food contact, not ratedFormsParticleProcessing Methodcast filmPhysicalNominal ValueUnitPhysical0.916gorm <sup>3</sup> Density0.916gorm <sup>3</sup> Meth Mass-Flow Rate (MFR) (190°C/2.16 kg)JJ010 minNominal ValueUnitTest MethodMechanicalNominal ValueUnitCoefficient of Friction (Dynamic, Cast Film)>.050So 1133Film Thickness - Tested23umFilm Thickness - Tested23umFilm Streks145 On MPaMPa1% sectioning, MD: 23 µm, cast film140MPaTestie Kress140MPaSo 27-3Testie Kress140MPaSo 27-3		Compliance of Food Exposure		
Films Stretch winding cast filmAgency RatingsEuropean food contact, not ratedFormsParticleProcessing Methodcast filmPhysicalNominal ValueUnitPhysical0.916g/dm³dDensity0.916g/dm³dMeth Mass-Flow Rate (MFR) (190°C/2.16 kg)Jg/10 minNominal ValueUnitTest MethodMechanicalNominal ValueUnitCoefficient of Friction (Dynamic, Cast Film)>.050So 1133FilmsNominal ValueUnitTest MethodFilmsNominal ValueUnitTest MethodFilm Thickness - Tested23µmSo 2023Film Schecommended / Availab8105 µmSi 0527-3Tessile ModulusI45MPaSi 0527-3Twacetoning, TD: 23 µm, cast film140MPaSi 0527-3Tensile KressIso 20 µmSi 0527-3Tensile KressIso 20 µmS				
Stetch winding ast filmAgency RatingsEuropean food contact, not rateFormsParticleProcessing Methodast filmPhysicalNominal ValuePhysicalNominal ValueDensity0.916Opean food contact, not rateIso 1183Methatass-Flow Rate (MFR) (190°C/L) kg)JonNominal ValueUnitMechanicalNominal ValueNominal ValueUnitCoefficient of Friction (Dynamic, Caster Film)JonNominal ValueUnitFilm Thickness - Tested30In Thickness - Tested23In Thickness - Tested16 to DymIn State Adminal, Dir Laster State150 StateIn State Adminal, Dir Laster State160 StateIn State State140Manal Caster State160 StateIn State State160 StateIn State160 State </td <td>Uses</td> <td>Packaging</td> <td></td> <td></td>	Uses	Packaging		
ast filmAgency RatingsEuropean food contact, not ratedFormsParticleProcessing Methodcast filmPhysicalNomina ValueUnitDensity0.916gram <sup>3</sup> Density0.916gram <sup>3</sup> MethanizactNomina ValueJohnMethanizactNomina ValueJohnMethanizactNomina ValueUnitMethanizactNomina ValueUnitMethanizactNomina ValueUnitCoefficient of Friction (Dynamic, Cast Film)> 0.50Sto 2014FilmsNomina ValueUnitTest MethodFilm Thickness - Tested23µmSto 2014Film Stress145MPaSto 2013Testers140MPaSto 2013Film Stress140MPaSto 2013FilmsSto 2014Sto 2013Sto 2013TestersSto 2014Sto 2013Film Stress140MPaSto 2013Film StressSto 2014Sto 2014Film StressSto 2014Sto 2014<		Films		
Agency RatingsEuropean food contact, not ratedAgency RatingsParticleFormsParticleProcessing Methodcast filmPhysicalNominal ValueUnitDensity0.916g/cm³Melt Mass-Flow Rate (MFR) (190°C/2.16 Kg)9.916g/l0 minMethanicalNominal ValueJoininMechanicalNominal ValueUnitCoefficient of Friction (Dynamic, Cast Film)>.050Sto 1133FilmsNominal ValueUnitTest MethodFilmsSo 50 purSto 8295Film Thickness - Tested2.3µmFilms8 to 50 µmSto 527-3Testiel Modulus145MPaSto 527-3Twisectioning, MD: 23 µm, cast film140MPaSto 527-3Twisectioning, TD: 23 µm, cast film140MPaSto 527-3FilmsSto 527-3Sto 527-3Sto 527-3Films		Stretch winding		
FormsParticleProcessing Methodcast filmPhysicalNominal ValueUnitTest MethodDensiv0.916g/cm³SO 1183Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)1.9g/10 minSO 1133MechanicalNominal ValueUnitTest MethodCoefficient of Friction (Dynamic, Cast Film)> 0.50ISO 8295FilmsNominal ValueUnitTest MethodFilm Thickness - Tested23µmISO 8295Film Thickness - Recommended / Availab8 to 50 µmISO 527-31% sectioning, MD: 23 µm, cast film140MPaISO 527-31% sectioning, TD: 23 µm, cast film140MPaISO 527-3Firstle StressIso 527-3ISO 527-3		cast film		
FormsParticleProcessing Methodcast filmPhysicalNominal ValueUnitTest MethodDensiv0.916g/cm³SO 1183Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)1.9g/10 minSO 1133MechanicalNominal ValueUnitTest MethodCoefficient of Friction (Dynamic, Cast Film)> 0.50ISO 8295FilmsNominal ValueUnitTest MethodFilm Thickness - Tested23µmISO 8295Film Thickness - Recommended / Availab8 to 50 µmISO 527-31% sectioning, MD: 23 µm, cast film140MPaISO 527-31% sectioning, TD: 23 µm, cast film140MPaISO 527-3Firstle StressIso 527-3ISO 527-3				
Processing Methodcast filmPhysicalNominal ValueUnitTest MethodDensity0.916g/cm³ISO 1183Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)1.9g/10 minISO 1133MechanicalNominal ValueUnitTest MethodCoefficient of Friction (Dynamic, Cast Film)> 0.50ISO 1000FilmsNominal ValueUnitTest MethodFilmsNominal ValueUnitTest MethodFilm Thickness - Tested23µmISO 527-3Tessile Modulus140MPaISO 527-31% sectioning, MD: 23 µm, cast film140MPaISO 527-3Tessile StressIso 527-3ISO 527-3	Agency Ratings	European food contact, not rated		
PhysicalNominal ValueUnitTest MethodDensity0.916g/cm³ISO 1183Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)1.9g/10 minISO 1133MechanicalNominal ValueUnitTest MethodCoefficient of Friction (Dynamic, Cast Film)> 0.50ISO 8295FilmsNominal ValueUnitTest MethodFilm Thickness - Tested23µmISO 527-3Film Thickness - Recommended / Available8 to 50 µmISO 527-31% sectioning, MD: 23 µm, cast film140MPaISO 527-31% sectioning, TD: 23 µm, cast film140MPaISO 527-3Tensile StressIso 527-3Iso 527-3	Forms	Particle		
Density     0.916     g/cm³     ISO 1183       Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)     1.9     g/10 min     ISO 1133       Mechanical     Nominal Value     Unit     Test Method       Coefficient of Friction (Dynamic, Cast Film)     > 0.50     ISO 8295       Films     Nominal Value     Unit     Test Method       Film Thickness - Tested     23     µm     ISO 527-3       Film Thickness - Recommended / Available     8 to 50 µm     ISO 527-3       Tensile Modulus     145     MPa     ISO 527-3       1% sectioning, TD: 23 µm, cast film     140     MPa     ISO 527-3       Tensile Stress     IsO 527-3     ISO 527-3     ISO 527-3	Processing Method	cast film		
Melt Mass-Flow Rate (MFR) (190°C/2.16     j.9     j/10 min     ISO 1133       Mechanical     Nominal Value     Unit     Test Method       Coefficient of Friction (Dynamic, Cast Film)     > 0.50     ISO 8295       Films     Nominal Value     Unit     Test Method       Films     Nominal Value     Unit     Test Method       Films     Nominal Value     Unit     Test Method       Film Thickness - Tested     23     µm     Test Method       Film Thickness - Recommended / Available     8 to 50 µm     ISO 527-3       I^% sectioning, MD: 23 µm, cast film     145     MPa     ISO 527-3       I% sectioning, TD: 23 µm, cast film     140     MPa     ISO 527-3       IFURS     Films     ISO 527-3     ISO 527-3	Physical	Nominal Value	Unit	Test Method
kg)1.9g/10 minISO 1133MechanicalNominal ValueUnitTest MethodCoefficient of Friction (Dynamic, Cast Film)> 0.50ISO 8295FilmsNominal ValueUnitTest MethodFilm Thickness - Tested23µmISO 527-3Film Thickness - Recommended / Available8 to 50 µmISO 527-3Tensile Modulus145MPaISO 527-31% sectioning, TD: 23 µm, cast film140MPaISO 527-3Tensile StressISO 527-3ISO 527-3	Density	0.916	g/cm³	ISO 1183
MechanicalNominal ValueUnitTest MethodCoefficient of Friction (Dynamic, Cast Film)> 0.50ISO 8295FilmsNominal ValueUnitTest MethodFilm Thickness - Tested23µmISO 527-3Film Thickness - Recommended / Available8 to 50 µmISO 527-3Tensile Modulus145MPaISO 527-31% sectioning, MD: 23 µm, cast film140MPaISO 527-3Tensile StressIsO 527-3ISO 527-3				
Coefficient of Friction (Dynamic, Cast Film)> 0.50ISO 8295FilmsNominal ValueUnitTest MethodFilm Thickness - Tested23µm			-	
FilmsNominal ValueUnitTest MethodFilm Thickness - Tested23μm-Film Thickness - Recommended / Available8 to 50 μmTensile Modulus1% sectioning, MD: 23 μm, cast film145MPaISO 527-31% sectioning, TD: 23 μm, cast film140MPaISO 527-3Tensile Stress1111111111111111111111111 <td< td=""><td></td><td></td><td>Unit</td><td></td></td<>			Unit	
Film Thickness - Tested23μmFilm Thickness - Recommended / Available8 to 50 μmISO 527-3Tensile ModulusISO 527-3ISO 527-31% sectioning, MD: 23 μm, cast film140MPaISO 527-31% sectioning, TD: 23 μm, cast film140MPaISO 527-3Tensile StressISO 527-3ISO 527-3	Coefficient of Friction (Dynamic, Cast Film)	> 0.50		ISO 8295
Film Thickness - Recommended / Available8 to 50 μmTensile ModulusISO 527-31% sectioning, MD: 23 μm, cast film1451% sectioning, TD: 23 μm, cast film140MPaISO 527-3Tensile StressISO 527-3	Films	Nominal Value	Unit	Test Method
Tensile Modulus     ISO 527-3       1% sectioning, MD: 23 μm, cast film     145     MPa     ISO 527-3       1% sectioning, TD: 23 μm, cast film     140     MPa     ISO 527-3       Tensile Stress     ISO 527-3     ISO 527-3	Film Thickness - Tested	23	μm	
1% sectioning, MD: 23 μm, cast film   145   MPa   ISO 527-3     1% sectioning, TD: 23 μm, cast film   140   MPa   ISO 527-3     Tensile Stress   ISO 527-3   ISO 527-3	Film Thickness - Recommended / Available	8 to 50 μm		
1% sectioning, TD: 23 μm, cast film140MPaISO 527-3Tensile StressISO 527-3	Tensile Modulus			ISO 527-3
Tensile Stress ISO 527-3	1% sectioning, MD: 23 $\mu$ m, cast film	145	MPa	ISO 527-3
	1% sectioning, TD: 23 µm, cast film	140	MPa	ISO 527-3
MD: yield, 23 μm, cast film 8.00 MPa ISO 527-3	Tensile Stress			ISO 527-3
	MD: yield, 23 µm, cast film	8.00	MPa	ISO 527-3

TD: yield, 23 µm, cast film	9.00	MPa	ISO 527-3
MD: fracture, 23 µm, casting film	40.0	MPa	ISO 527-3
TD: fracture, 23 µm, casting film	32.0	MPa	ISO 527-3
Tensile Elongation			ISO 527-3
MD: fracture, 23 µm, casting film	600	%	ISO 527-3
TD: fracture, 23 $\mu$ m, casting film	800	%	ISO 527-3
Dart Drop Impact (23 µm, Cast Film)	330	g	ISO 7765-1/A
Elmendorf Tear Strength <sup>1</sup>			ISO 6383-2
MD : 23.0 µm	130.0	kN/m	ISO 6383-2
TD : 23.0 μm	240.0	kN/m	ISO 6383-2
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -70.0	°C	ASTM D746
Vicat Softening Temperature	95.0	°C	ISO 306/A
Melting Temperature	123	°C	Internal method
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 23.0 µm, Cast Film)	92		ASTM D2457
Haze (23.0 µm, Cast Film)	2.5	%	ISO 14782
Extrusion	Nominal Value	Unit	
Melt Temperature	220 - 270	°C	
NOTE			
1.	Cast Film		

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

## Recommended distributors for this material

## Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

