

# SEMI-FINISHED PRODUCTS

SHEETS, ROUND BARS, WELDING RODS



**agru**

Worldwide Competence  
in Plastics





## Worldwide competence in plastics

AGRU Kunststofftechnik GmbH is an Austrian, family owned company with worldwide activities in production and sales of high-quality thermoplastic polymer products. One of our core competences are semi-finished products made out of PP, PP-s, PP-s-el, PP-B 2222, PP foamed, PE 100, PE 100-RC, HDPE-el, PVDF, PVDF-Flex and ECTFE.

Sheets, round bars and welding rods are produced on the worlds most modern production lines. A large production range as well as modern stock and logistic capabilities enable fast and technically perfect solutions for many applications worldwide.

The quality management system according to ISO 9001:2008 ensures the best quality made by AGRU Kunststofftechnik GmbH.

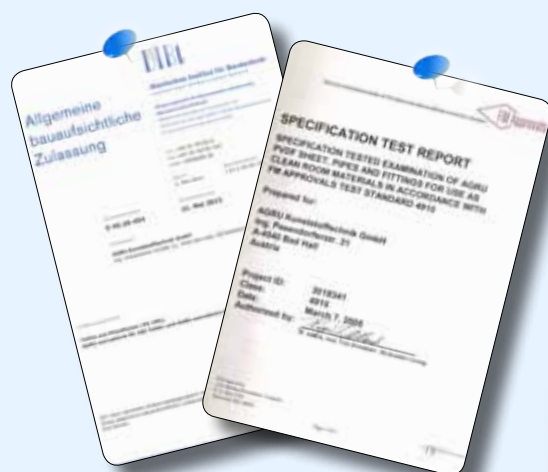


## TOP QUALITY

### High quality - fast available

An important factor for the quality of the semi-finished products is the raw material. AGRU uses only raw materials delivered from selected suppliers with excellent product quality. For example our extruded sheets made out of PE 100 fulfil the highest quality requirements verified by the DIBt approval Z-40.26-454, and our PVDF semi-finished products are listed according FM 4910, respectively.

Due to the large application range, especially semi-finished products have to meet high quality demands.



**FM Approvals**  
Listed 4910  
Cleanroom Material



## The advantages:

- Large product range „ECTFE pressed sheets up to a thickness of 30 mm”
- High grade raw materials „PE 100-RC, PVDF, ECTFE, ...”
- Void-free products verified by ultrasonic inspection
- Clean products
- Exact parallelism of sheets
- Excellent shrinkage, i.e. thermoforming characteristics
- Perfect roundness of round bars
- High homogeneity
- Excellent packaging



## SEMI-FINISHED PRODUCTS



- Light weight
- High ageing resistance
- Excellent chemical resistance
- Outstanding weldability
- Excellent abrasion resistance
- Low friction coefficient
- High mechanical strength
- Good thermoforming properties
- Flexibility
- Excellent insulating features
- Physiologically harmless





## Sheets, round bars, welding rods for large application field:

- Galvanic and pickling tanks
- Gas washer and exhaust vent systems
- Apparatus construction
- Tank construction
- Lining of reactors, basins and tanks
- Lining of centrifugals and scrubbers
- Assembly of exhaust vent systems and ventilators
- Wet bench and process plants
- Base product for machined parts
- Thermoforming products
- Light construction systems
- Cutting plates

## UNIVERSALLY APPLICABLE



Semi-finished products made out of thermoplastics offer outstanding and durable solutions for the modern and high-quality installation of apparatus and tank constructions as well as for the assembly of abrasion resistant constructions.

The chemical and heavy industries request different properties concerning acid and alkali resistance, temperature changes, and static loads especially when applied in explosive areas (ATEX).

For example semi-finished products made out of PE, PP, PVDF and ECTFE have been successfully used in these sensitive areas for many years.

For fabrication several approved joining technologies such as extrusion, hot-gas, and butt welding are applicable.



## Specific material properties

	PE 100	PP-H	PP-R	PP-B 2222
Density [g/cm <sup>3</sup> ]	0.96	0.91	0.91	0.91
Tensile strength [MPa]	25	30	25	26
E-modulus [MPa]	1100	1300	900	1100
Expansion [K <sup>-1</sup> ×10 <sup>-4</sup> ]	1.8	1.6	1.6	1.6
UV-resistant	yes	no	no	no
Standard colour	black	grey	grey	grey

	PE-el	PP-s	PVDF	ECTFE
Density [g/cm <sup>3</sup> ]	0.99	0.93	1.78	1.68
Tensile strength [MPa]	26	30	50	30
E-modulus [MPa]	1150	1300	2000	1690
Expansion [K <sup>-1</sup> ×10 <sup>-4</sup> ]	1.8	1.6	1.2	0.8
UV-resistant	yes	no	yes	yes
Standard colour	black	grey	natural	natural



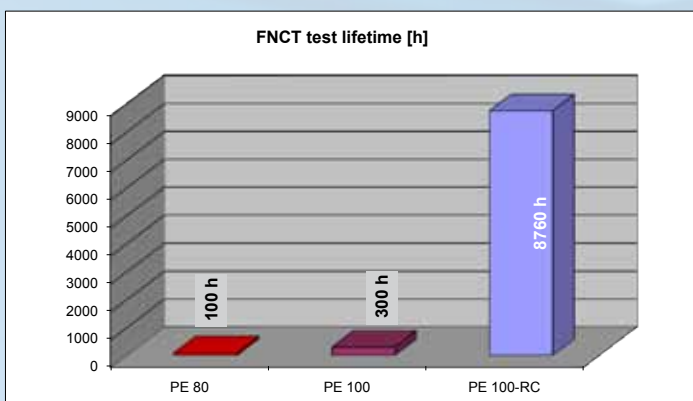
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## MADE OF HIGH GRADE RAW MATERIAL



## PE 100-RC - the new generation

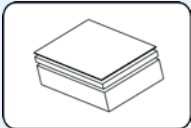
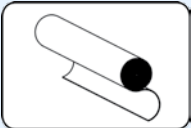
As a further development for construction of high grade apparatuses and tanks AGRU now offers PE 100-RC sheets and welding rods. This material shows excellent values regarding FNCT „Full Notch Creep Test“ behaviour. Another advantage of this new product is the higher strength compared to PE 80 sheets which results in lower wall thickness and therefore advantages in processing and transportation.



Minimum service lives in the FNCT „Full Notch Creep Test“ according DVS 2205-1 supplement 6.




## Extruded sheets

					
	sheet 2 m × 1 m	sheet 3 m × 1.5 m	sheet 4 m × 2 m	roll 25 m × 1 m	roll 25 m × 1.5 m
PP-H grey (RAL 7032)	2 - 40 mm	3 - 40 mm	3 - 35 mm		
PP-H grey, polyester fabric backed (RAL 7032)	3 - 6 mm	3 - 6 mm		3 - 4 mm	3 - 4 mm
PP-H grey, PP fabric backed (RAL 7032)		3 - 6 mm			3 - 4 mm
PP-R grey (RAL 7032)			40 mm		
PP natural	2 - 25 mm	3 - 25 mm			
PP white (RAL 9003)	6 - 20 mm	6 - 20 mm			
PP-s grey (RAL 7037)	3 - 20 mm	3 - 15 mm			
PP-s-el black	3 - 20 mm	4 - 15 mm			
PP-B 2222 grey, polyester fabric backed (RAL 7032)		4 mm			
PP-B 2222 grey, PP fabric backed (RAL 7032)		4 mm			
PE 100 black	2 - 30 mm	3 - 30 mm	3 - 30 mm		
PE 100 black, polyester fabric backed		5 mm			
PE 100-RC black	35 - 40 mm	3 - 50 mm	12 - 40 mm		
PE 100 natural	3 - 25 mm	3 - 20 mm			
HDPE-el black	3 - 20 mm				
PVDF natural	2 - 20 mm	3 - 5 mm			
PVDF natural, polyester fabric backed	3 - 5 mm	3 - 4 mm		2 - 3 mm	3 mm
PVDF-Flex natural, polyester fabric backed		3 mm			
ECTFE natural	1.5 - 2.3 mm				
ECTFE natural, glass fabric backed	2.3 - 3 mm	2.3 - 3 mm		2.3 - 3 mm	2.3 mm

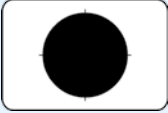
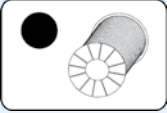
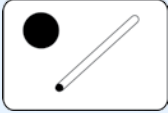
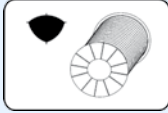

## EXTENSIVE PRODUCT RANGE

## Pressed sheets

		
	sheet 2 m × 1 m	sheet 4 m × 2 m
PP-H grey (RAL 7032)	10 - 60 mm	15 - 60 mm
PP-R grey (RAL 7032)	70 - 120 mm	
PP natural	10 - 60 mm	15 - 60 mm
PP-s grey (RAL 7037)	25 - 40 mm	
PE 100 black	10 - 120 mm	15 - 70 mm
PE 100 natural	10 - 80 mm	15 - 70 mm
HDPE-el black	25 - 60 mm	
PVDF natural	10 - 50 mm	
ECTFE natural	10 - 30 mm	

PE 100 & PE 100-RC pressed sheets available on request.

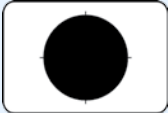

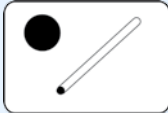
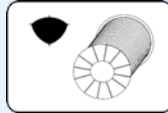
## Extruded round bars & welding rods

					
	round bar L = 1 m	welding rod circular roll	welding rod circular 1 m bar	welding rod triangle roll	welding rod oval roll
PP-H grey (RAL 7032)		3 - 5 mm			
PP-R grey (RAL 7032)	15 - 315 mm	3 - 5 mm	3 - 4 mm	5 × 3 & 6 × 4 mm	5 × 3 & 6 × 4 mm
PP natural		3 - 4 mm			
PP white (RAL 9003)		3 - 4 mm			
PP-s grey (RAL 7037)		3 - 4 mm			
PP-s-el black	20 - 80 mm	3 - 4 mm			
PP-B 2222 grey (RAL 7032)		3 - 4 mm			

# IS OUR STRENGTH



## Extruded round bars & welding rods

				
	round bar L = 1 m	welding rod circular roll	welding rod circular 1 m bar	welding rod triangle roll
PE 100 black	15 - 315 mm	3 - 5 mm		
PE 100-RC black		3 - 5 mm		
PE 100 natural		3 - 4 mm		
HDPE-el black	50 - 160 mm	3 - 4 mm		
PVDF natural	20 - 300 mm	3 - 4 mm	3 mm	
PVDF-Flex natural		3 mm		
ECTFE natural	20 - 65 mm	3 - 4 mm		
AGRUPLAST purging rod		4 mm		

PE 100-RC round bars available on request.

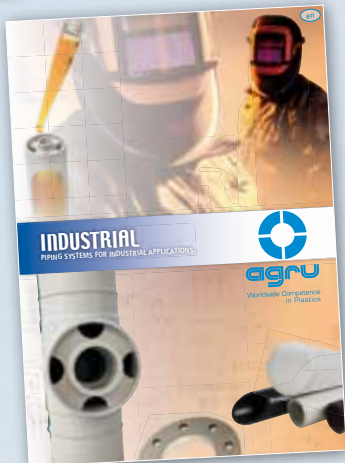




## CONCRETE PROTECTION

Excellent solution for innovative thermoplastic lining of concrete structures

- Easy and safe installation
- High mechanical resistance
- Chemical resistance
- Durable



## INDUSTRIAL PIPING SYSTEMS

Piping systems for industrial applications

- High operation reliability
- Good long-term pressure resistance
- No corrosion / resistant to chemicals
- Sustainable solutions



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Pictures are partly reference photos.

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