THERMOPLASTIC Vs. RUBBER HOSES

THERMOPLASTIC HOSES	RUBBER HOSES
1. Lower internal surface roughness (5 / 6 microns).	1. Higher internal surface roughness.
2. Higher flow rate (in turbulent flow) at a fixed diameter.	2. Lower flow rate (in turbulent flow) at a fixed diameter.
3. Lower friction losses (in turbulent flow) at a fixed diameter.	3. Higher friction losses (in turbulent flow) at a fixed diameter.
4. Excellent resistance to ozone and higher duration of the storage in warehouse (theoretically unlimited).	4. Sensitivity to ozone aging and limited duration of the storage in warehouse (packaging and closed containers required).
5. Sizes even longer than 500/600 meters. The limit is given by the length of the wires inside the reinforcement braid.	5. Sizes with limited length, not exceeding 150/200 meters. The limit is related with the manufacturing process, because the hose must be completely unwound during the mandrel extraction.
6. Excellent resistance to surface abrasion thanks to the PU covering (excellent anti-abrasion features).	6. Poor resistance to abrasion.
7. Low weight at a fixed working pressure.	7. Higher weight at a fixed working pressure.
8. High precision manufacture and very narrow tolerance ranges.	8. Lower manufacture precision and greater tolerances.
9. High cleanliness during manufacture and no contamination of the finished product.	9. Lower cleanliness and presence of contamination of the finished product.
10. Possibility of customized color of the hose external cover and of the branding.	10. Limited customization of the color because not every hue may guarantee a satisfying result.
11. Low swelling effect in oil for some particular thermoplastic materials.	11. Higher swelling effect in oil.
12. Higher barrier feature to gas permeability offered by some thermoplastic materials.	12. Limited barrier feature to gas permeability.

High pressure hoses – thermoplastic vs. rubber

Features:

- low internal surface roughness
- low pressure losses
- narrow tolerance
- long lengths without joints
- customized colors
- resistance to abrasion
- resistance to ozone
- low weight
- high cleanliness / low contamination
- low swelling effect in oil
- barrier effect to gas permeability
- compactness / small sizes
- price
- min. bend radius